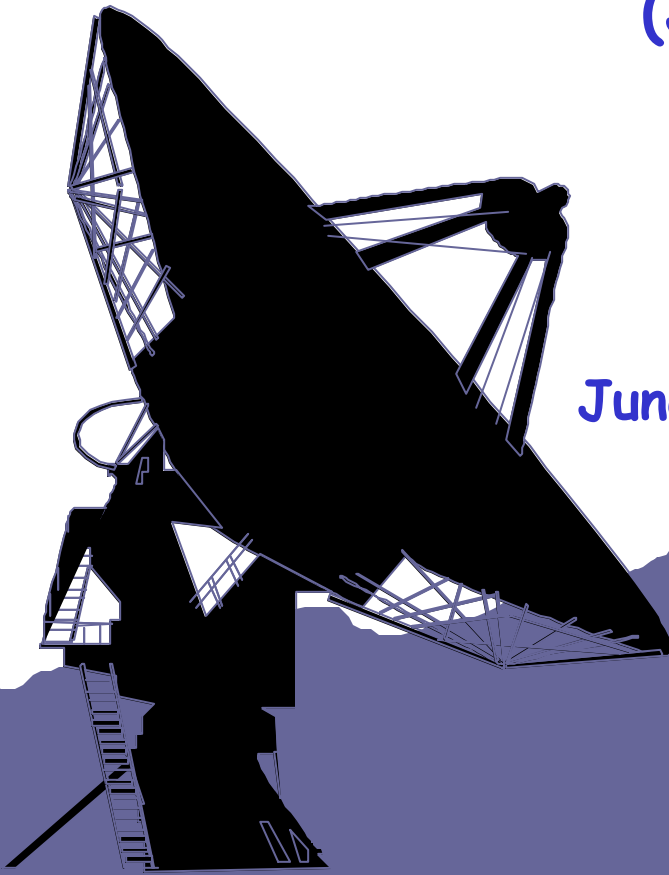


JOINT USERS RESOURCE ALLOCATION PLANNING MEETING

(JURAP)

June 19, 2003





July 11, 2003

Refer to: 930-02-015-ESB:lc

TO: Distribution

FROM: Eugene S. Burke

SUBJECT: Minutes for the Joint Users Resource Allocation Planning Committee Meeting held June 19, 2003.

NEXT JURAP MEETING:
Thursday, July 17, 2003
JPL Bldg. 303, Room 411 at 1:00 p.m.

Attendees:

Andujo, A.	Hall, J.	Martinez, K.	Slade, M.
Arroyo, B.	Holmes, D.	Mase, B.	Waldherr, S.
Bartoo, R.	Kehrbaum, J.	Morris, D.	Yetter, B.
Brymer, B.	Lacey, N.	Poon, P.	
Compton, B.	Ludwinski, J.	Ryan, R.	
Gage, K.	Martinez, G.	Ryne, M.	

The Joint Users Resource Allocation Planning Committee meets monthly to review the status of Flight Projects, the requirements of other resource users, and to identify future requirements and outstanding conflicts. The last regular meeting was held on June 19, 2003, at the Jet Propulsion Laboratory.

Introductory Remarks / Conflict Resolutions – D. Morris

Mr. Morris welcomed the attendees to the JURAP meeting and explained that he would chair the meeting. The MER-A mission successfully launched earlier this month and Nozomi Earth Flyby occurred this morning. When MER-B launches next month, all four Mars missions will be on their way.

Thanks were extended to the Projects for submitting their RARB inputs by the due date. All view period files needed for RARB analysis have been processed and analysis has begun for the August

RARB. The RAPSO team will be posting the RARB material approximately 3 - 4 weeks earlier than usual to allow the Projects/users more time for review.

Special Reports

Mars Exploration Rover Perspective on Mid-Range Status – Jan Ludwinski

Concern was expressed over the pace of the mid-range scheduling negotiations. The MER missions rely on having time scheduled well in advance so that their team may prepare and coordinate operations sequencing tasks. The Project would like to have about six months of negotiated schedules completed, which would mean that completed schedules should be up to week 49. At this time the Mission has little or no margin in sequencing MER supports. Week 36 is required by June 30 and Week 37 by July 14. The Project requests that some way be found to speed up the pace of schedule delivery.

D. Morris and N. Lacey stated that the mid-range scheduling process has suffered many setbacks due to the SIRTf, MER1, MER2 and MUSES-C launch date changes, but that the RAP team is moving as quickly as possible, producing schedules well in advance of the Project schedulers' ability to negotiate. They appreciate and understand the concerns and look to all Projects for help in getting the schedules ahead by being prepared for the weekly RAP meetings, and having conflicts and proposals identified prior to the meeting, rather than attempting to identify conflicts and resolutions during the meeting.

The RAPSO Office has accepted an Action Item to work to resolve MER's concern, and this has been assigned to the RAPSO System Engineer, Roger Bartoo.

RARB Action Items – D. Morris

Only one RARB Action Item remains open. Multi-mission DSN Allocation and Planning (MDAP) provides Mars Program coordinated input to the Resource Allocation (Mid-Range) Planning Team (RAPT) of at least one week of schedule, at least 6 months prior to the schedule week. To date, no weeks have been received, but plans are in place to provide them soon.

Resource Analysis Team – N. Lacey

The following is a list of changes to the DSN Mission Planning Set:

- End of Prime Mission date for Gravity Probe B has changed to 05-30-05
- End of Prime Mission date for MEGA has changed to 12-31-08
- Launch date for SIRTf has changed to 08-23-03
- The name of the MER-A spacecraft has changed to "Spirit"
- The name of the MER-B spacecraft has changed to "Opportunity"
- Launch date for MER-B has changed to 07-06-03

For a complete listing of On-going and Advanced Planning projects visit the following link for the RAPSO website: <http://rapweb.jpl.nasa.gov/tmodmiss.pdf>

The following is a list of changes to the DSN Resource Implementation Planning Matrix:

- NSP Implementation has been completed for DSS-14

For a complete listing of the DSN Resource Implementation visit the following link for the RAPSO website: <http://rapweb.jpl.nasa.gov/tmodplns.pdf>

The following special study has been completed:

- SIRTf Impact Study – Launch Change

RARB status – N. Lacey

The RAPSO team has received all Projects and user's inputs and RAPSO has begun the RARB analysis process.

The RARB timeline is available on the RAPSO website. The preliminary RARB Redbook will be published July 14, 2003, with responses due by August 5, 2003. This should allow more than enough time for Project/user review.

DSN Downtime Forecast – A. Andujo

There is a request that is being worked in mid-range scheduling for Antenna Balancing at DSS-43 for 4 days.

A request has been made to extend the approved DSS-14 Antenna Controller Replacement weeks 30 - 36 2004, by an additional two weeks. Final approval will be sought at the August 2003 RARB.

A request has been made to change the approved DSS-45 Antenna Controller Replacement weeks 43 - 49 2004, to the Life extension task and add an additional ten weeks from week 33 – 49 of 2004. Final approval will be sought at the August 2003 RARB.

Approved DSS-27 downtime for NSP implementation task previously scheduled for week 14 - 17 of 2004, was requested to be rescheduled to week 47 - 50 of 2004. A formal presentation will be made at the August 2003 RARB.

A request has been made to change the approved DSS-43 Antenna Controller Replacement weeks 30 - 36 2005, to include the Hydrostatic Bearing task and extend by an additional 17 weeks and occur between weeks 29 – 52 of 2005. Final approval will be sought at the August 2003 RARB.

The previously approved DSS-63 Antenna Controller Replacement in weeks 38 - 44 2005, has been rescinded and all Projects and users previously moved, have been reallocated back to DSS-63 during this period. This downtime task will be proposed to occur in weeks 21 – 35 of 2006. This request is currently being worked in to the August RARB. Final approval will be sought at the August 2003 RARB.

A request has been made to change the approved DSS-65 Antenna Controller Replacement weeks 08 – 14 2005, to include the Life extension and the Relocation task and extend it by an additional 10 weeks, to occur between weeks 05 – 21 of 2005. Final approval will be sought at the August 2003 RARB.

The previously approved DSS-45 Antenna Controller Replacement in weeks 43 - 49 2004 will be proposed to occur in weeks 44 – 52 of 2006. This request is currently being worked in to the August RARB. Final approval will be sought at the August 2003 RARB.

Please see the attached Downtime report for complete listing of downtime or visit the following link on the RAPSO website: <http://rapweb.jpl.nasa.gov/planning.htm>

DSN Operations – J. Buckley

There was no presentation given at this month's JURAP, though presentation material is included with the Minutes.

Goldstone Solar System Radar – M. Slade

Dr. Slade reported that there were three Mercury observations planned in which one was unsuccessful due to an antenna failure at GBT. GSSR also successfully completed four Operational Readiness Tests for Mars Interferometry. Also discussed was the upcoming Near-Earth Asteroid Observations of 1998 FH12.

Radio Astronomy / Special Activities – G. Martinez

It was reported that one Clock Sync activity on DOY 148 yielded 100% data capture. There were two Cat M&E activities. The one on DOY 139 was successful; the other suffered from several equipment failures at DSS-14 and DSS-45, but managed to gather 73% data.

The Space Geodesy Program conducted two activities. Antenna problems occurred, but they managed 96% data capture.

Guest Observing activity BG134B experiment observations were done using DSS-14, DSS-63, VLBA, VLA, and the 100m telescope at Effelsburg. DSS-63 reported no problems during the observation, but DSS-14 had major pointing problems. The PI reported that pointing at Goldstone was very bad during the first part of the experiment in April due to inaccurate pointing models.

The second of four Gravity Probe experiments with BR088A occurred, this experiment observed the source HR8703, which will be used as a guide star for the Gravity Probe-B mission. No problems were reported by DSS-14, DSS-43, or DSS-63.

JURAP Science Advisor – E. Smith

There was no presentation given at this month's JURAP.

FLIGHT PROJECTS REPORTS

INTEGRAL – D. Holmes

Mr. Holmes reported that ESA is quite happy with DSN support but it is not perfect. Hardware problems at DSS-16 remain. The Integral project has enabled a new downlink symbol rate, the new symbol rate configuration data files have been updated at both DSS-16 and DSS-24, and both stations have successfully supported the new rate. ESA has had some problems adjusting to the new higher rate, but has confirmed that the random single frame errors were corrected after the communications fix and the virtual channel split.

A time tag discrepancy between the data collected at Goldstone and at the ESA Redu station has been under discussion. Two time tag problems caused some difficulty at the beginning of operations, one has been fixed the other is a known fixed offset. Variable time tags were still a problem, on the order of 150 usec, this has been determined to be a problem at ESA's Redu station, and also ESA believes there is a time bias aboard the INTEGRAL spacecraft. ESA has confirmed the accuracy of the Goldstone time tags.

Mars Express – D. Holmes

Mr. Holmes reported that the Mars Express launch aboard a Soyuz/Fregat launch vehicle from the Baikonour Cosmodrome was successful, with some minor early orbit issues. MEX is healthy and on its way to Mars with a very good trajectory. ESA has expressed their great appreciation for the near perfect DSN support.

Ulysses – B. Brymer

Mr. Brymer reported that the spacecraft is nominal and spacecraft operations continue. Spacecraft power and thermal reconfigurations and instrument calibrations are performed as required. Spacecraft earth pointing maneuvers are being performed every 5 days.

Although NSP is providing good support, the Project has lost the ability to perform HUS Datation calibrations. A replacement procedure is in development.

Stardust - R. Ryan

There was no presentation given at this month's JURAP, though presentation material is included with the Minutes.

Chandra – K. Gage

Mr. Gage reported that all operations continue well. The loss of monitor data, which was lost in the implementation of the NSP, has not hindered operations. The spacecraft is still suffering from a recurring gyro problem. The current to the gyro is erratic. Several steps have been taken to remedy the issue. The mission has attempted to cycle power to the unit with some success. Given the continued elevated current levels and its behavior following the warm-restart on Jun 13, the decision has been made to swap to IRU-2 and retain maximum operational lifetime on IRU-1 gyro-1. The swap is expected to be made on July 19, during a suitable communication period during perigee, to ensure no

impact to science. During the IRU swap, the spacecraft will be without attitude control. It is believed that the gyro probably has only a few months of life left.

Voyager – J. Hall

It was reported that both Voyager spacecraft are healthy and all operations are nominal. Overall DSN support was reported as good.

Cassini – D. Doody

There was no presentation given at this month's JURAP, though presentation material is included with the Minutes.

ISTP, WIND, POLAR, SOHO, GEOTAIL, Cluster II – S. Waldherr

Mr. Waldherr reported that the SOHO spacecraft is suffering a malfunction in the pointing mechanism of the satellite's high-gain antenna (HGA). Several attempts have been made to recover control of the z-axis motor controlling the movement of the antenna without luck. If the problem persists, there will be periodic losses in the real-time transmission of scientific data of about two and a half weeks every three months. The first blackout is estimated to begin sometime late in the week of June 22, 2003. The SOHO team is currently investigating a number of options to fully recover or minimize any real-time scientific data loss.

NOZOMI – M. Ryne

Mr. Ryne reported that the Nozomi spacecraft is now on its way to Mars after completing its second Earth swingby. The estimated arrival date at Mars is December 13/14, 2003. The Project started receiving DSN data on May 21st, after a favorable antenna aspect angle. The spacecraft has also successfully completed two Delta-V maneuvers.

MAP, ACE, IMAGE and Genesis – S. Waldherr

Mr. Waldherr reported that all spacecraft are in good health and there are no issues outstanding.

Mars Exploration Rover – B. Compton

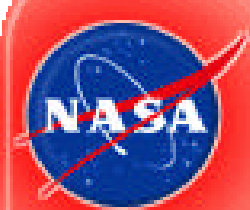
Mr. Compton reported that the MER-A spacecraft was successfully launched June 10, 2003 at 4:58 P.M. PDT. DSN support was excellent at Canberra and all subsequent support. Earliest MER-B launch opportunity is Wednesday, June 25 at 9:27:31 PM PDT, with an initial acquisition at DSS-24 and DSS-16.

Mars Odyssey – P. Poon

Mr. Poon reported that all science payload suites are collecting data in a nominal fashion. The project is involved in testing the UHF communications system with Stanford University, in order to determine the spacecraft's ability to conduct relay support for the MER missions. So far, tests have shown signal level losses are within constraints.

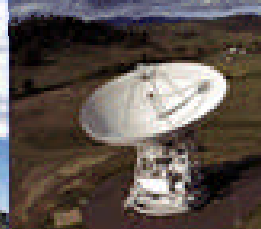
Mars Global Surveyor – P. Poon

Mr. Poon reported that the MGS spacecraft is in good health. The Project expects the spacecraft to fulfill most extended mission objectives. MER site coverage may become an E2 mission objective. The Project expects to satisfy MER EDL requirements and the chances of operation through 2008 are good.



RAPSO

**Resource Allocation Planning
and Scheduling Office**



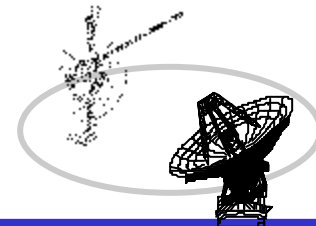
**Jet Propulsion Laboratory
California Institute of Technology**

Joint Users Resource Allocation Planning (JURAP) Meeting

June 19, 2003

**Action Item Status
From August 13, 2002 and
February 11, 2003 RARB
(Resource Allocation Review Board)**

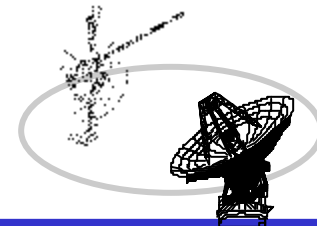
David G. Morris



Resource Allocation Planning & Scheduling Office (RAPSO)

Action Item Summary

- Action Item 1 Status:
 - The first two weeks of a Mars Program coordinated input for December 2003 has not been provided to Resource Allocation Planning Team (RAPT) by the Multi-mission DSN Allocation and Planning (MDAP) team.



Resource Allocation Planning & Scheduling Office (RAPSO)

Action Item Summary

<i>AI#</i>	<i>Year</i>	<i>Month(s)</i>	<i>System</i>	<i>Responsible</i>	<i>Due Date</i>	<i>Status</i>
01	2003-2004	December-April	Mars Program	B. Arroyo	06/01/2003	Open

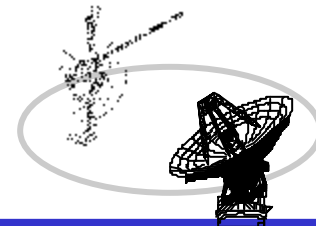
ACTION: (aka 8/13/02 RARB A.I. #7) Multi-mission DSN Allocation and Planning (MDAP) provide a Mars Program coordinated input to Resource Allocation (Mid-Range) Planning Team (RAPT) of at least one week per week at least 6 months prior to the schedule week. This action will use the result of Action Item 6 to clarify the scope of resources in which to plan to.

RESPONSE: (6/19/03) No input has been received to date.

<i>AI#</i>	<i>Year</i>	<i>Month(s)</i>	<i>System</i>	<i>Responsible</i>	<i>Due Date</i>	<i>Status</i>
02	2004 December	October-	RAPSO	S. Lineaweaver	04/20/2003	Closed

ACTION: Analyze proposed DSS-45 downtime (10/18/2004 – 12/05/2004) for Antenna Controller Replacement (ACR) and Microwave Switch Controller (USC).

RESPONSE: (3/20/03) Presentation of contention analysis approved at March 2003 JURAP meeting.



Resource Allocation Planning & Scheduling Office (RAPSO)

Action Item Summary

<i>AI#</i>	<i>Year</i>	<i>Month(s)</i>	<i>System</i>	<i>Responsible</i>	<i>Due Date</i>	<i>Status</i>
03	2005	April-May	Cassini	D. Seal	02/25/2003	Closed

ACTION: Provide Cassini Occultation Plans regarding DSS-25 planned downtime.

RESPONSE: (02/18/03) Information provided showed Cassini's need for DSS-25 prior to February 19 and after April 30.

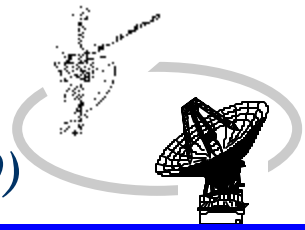
<i>AI#</i>	<i>Year</i>	<i>Month(s)</i>	<i>System</i>	<i>Responsible</i>	<i>Due Date</i>	<i>Status</i>
04	2005	July-August	Mars Express	T. Thompson	04/10/2003	Closed

ACTION: Provide impact to Mars Express requested weekly Bi-Static Radio Science requirement during planned DSS-43 downtime.

RESPONSE: (2/19/03) Mars Express requests that the Bi-Static experiments be moved to another 70M antenna in each week that DSS-43 is down. When using another 70M antenna, continue to use the same 70M antenna for several weeks versus having DSS-63 one week and DSS-14 the next



Interplanetary Network Directorate
DEEP SPACE MISSION SYSTEMS (DSMS)



JPL

Resource Allocation Planning & Scheduling Office (RAPSO)

JOINT USERS RESOURCE ALLOCATION PLANNING COMMITTEE



Resource Analysis Team

June 19, 2003

Napoleon Lacey

– Ongoing / Approved Projects –

Project	Acronym	Launch or Start	EOPM	EOEM
DSN Antenna Calibration	DSN	--	--	--
DSS Maintenance	DSS	--	--	--
European VLBI Network	EVN	--	--	--
Ground Based Radio Astronomy	GBRA	--	--	--
Reference Frame Calibration	DSN	--	--	--
Space Geodesy	SGP	--	--	--
Voyager 2	VGR2	08/20/77	10/15/89	09/30/07
Voyager 1	VGR1	09/05/77	12/31/80	09/30/07
Goldstone Solar System Radar	GSSR	04/01/85	--	--
Galileo	GLLO	10/18/89	12/07/97	09/21/03
Ulysses	ULYS	10/06/90	09/11/95	09/30/04
ISTP - Geotail	GTL	07/24/92	07/24/95	09/30/07
ISTP - Wind	WIND	11/01/94	11/01/97	09/30/07
ISTP - SOHO	SOHO	12/02/95	05/02/98	09/30/07
ISTP - Polar	POLR	02/22/96	08/23/97	09/30/07
Gravity Probe B	GPB	06/01/96	05/30/05	TBD
Mars Global Surveyor	MGS	11/07/96	02/01/01	01/03/08

– Ongoing / Approved Projects (continued) –

Project	Acronym	Launch or Start	EOPM	EOEM
Advance Composition Explorer	ACE	08/25/97	02/01/01	09/30/07
Cassini	CAS	10/15/97	06/30/08	06/30/10
Nozomi (Planet-B)	NOZO	07/03/98	12/31/05	TBD
Stardust	SDU	02/07/99	01/14/06	---
Chandra X-ray Observatory	CHDR	07/23/99	07/24/09	07/24/14
Imager for Magnetopause-to-Aurora Global Exploration	IMAG	03/25/00	05/30/02	09/30/07
Cluster 2 - S/C #2 (Samba)	CLU2	07/16/00	02/15/03	09/30/07
Cluster 2 - S/C #3 (Rumba)	CLU3	07/16/00	02/15/03	09/30/07
Cluster 2 - S/C #1 (Salsa)	CLU1	08/09/00	02/15/03	09/30/07
Cluster 2 - S/C #4 (Tango)	CLU4	08/09/00	02/15/03	09/30/07
2001 Mars Odyssey	M01O	04/07/01	08/24/04	05/29/08
Wilkinson Microwave Anisotropy Probe	WMAP	06/30/01	10/01/03	10/01/06
Genesis	GNS	08/08/01	09/08/04	---
Mission Enhancement by Ground-based Astronomy	MEGA	02/01/02	12/31/08	---
International Gamma Ray Astrophysics Lab	INTG	10/17/02	12/18/04	12/18/07
Hayabusa (MUSES - C)	MUSC	05/09/03	06/05/07	---
Mars Express Orbiter	MEX	06/02/03	02/11/06	08/03/08

– Ongoing / Approved Projects (continued) –

Project	Acronym	Launch or Start	EOPM	EOEM
Mars Exploration Rover - A	MER2	06/10/03	04/06/04	05/11/04
Mars Exploration Rover - B	MER1	06/25/03	04/27/04	06/15/04
Space Infrared Telescope Facility	STF	08/14/03	10/12/08	---
Rosetta	ROSE	02/26/04	12/31/15	---
Messenger	MSGR	03/10/04	04/06/10	---
Lunar - A	LUNA	08/14/04	04/11/05	---
Space Technology 5	ST5	11/19/04	02/27/05	TBD
Deep Impact	DIF	12/30/04	08/05/05	---
RadioAstron	RADA	03/15/05	06/15/10	TBD
Mars Reconnaissance Orbiter	MRO	08/10/05	12/31/10	12/31/15
Stereo Ahead	STA	11/15/05	02/18/08	---
Stereo Behind	STB	11/15/05	02/18/08	---

– Advanced / Planning Projects –

Project	Acronym	Launch or Start	EOPM	EOEM
New Horizons	NHPC	01/10/06	03/18/17	TBD
Dawn	DAWN	05/27/06	07/26/15	TBD
Mars Competed Scout 2007	M07S	08/19/07	08/23/08	08/22/10
Kepler	KPLR	10/01/07	09/26/11	TBD
Mars Telecommunications Orbiter 2009	M09T	09/07/09	09/07/16	09/07/20
Mars Science Laboratory 2009	M09L	10/25/09	03/04/12	TBD
James Webb Space Telescope	JWST	08/01/11	07/31/16	TBD
Advanced Radio Interferometry between Space and Earth (ARISE)	ARSE	06/15/10	06/15/15	---
VLBI Space Observatory Programme (VSOP-2)	VSP2	06/15/10	06/15/15	---
Space Interferometry Mission	SIM	12/31/09	06/30/20	TBD
Mars Competed Scout 2011	M11S	10/30/11	09/10/14	TBD
Mars MSR Lander / Orbiter 2013	M13O	11/28/13	08/21/16	TBD

Station	Subnet	Delivery Date	S-Band Down	S-Band Up	X-Band Down	X-Band Up	20 kW X-Band	Ka-Band Down	Ka-Band Up	NSP
DSS-14	70M	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	TBD	N/A	XXXX
DSS-15	34HEF	XXXX	XXXX	N/A	XXXX	XXXX	XXXX	TBD	N/A	XXXX
DSS-16	26M	XXXX	XXXX	XXXX	N/A	N/A	N/A	N/A	N/A	N/A
DSS-24	34BWG1	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	10/01/05	N/A	XXXX
DSS-25	34BWG2	XXXX	N/A	N/A	XXXX	XXXX	09/01/03	XXXX	XXXX	XXXX
DSS-26	34BWG2	XXXX	N/A	N/A	XXXX	XXXX	XXXX	XXXX	N/A	XXXX
DSS-27	34HSB	XXXX	XXXX	XXXX	N/A	N/A	N/A	N/A	N/A	12/12/04
DSS-34	34BWG1	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	01/01/05	N/A	XXXX
DSS-43	70M	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	TBD	N/A	XXXX
DSS-45	34HEF	XXXX	XXXX	N/A	XXXX	XXXX	XXXX	TBD	N/A	XXXX
DSS-46	26M	XXXX	XXXX	XXXX	N/A	N/A	N/A	N/A	N/A	N/A
DSS-54	34BWG1	XXXX	XXXX	XXXX	XXXX	XXXX	09/08/03	08/01/06	N/A	XXXX
DSS-55	34BWG2	11/01/03	N/A	N/A	11/01/03	11/01/03	11/01/03	11/01/03	N/A	11/01/03
DSS-63	70M	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	TBD	N/A	XXXX
DSS-65	34HEF	XXXX	XXXX	N/A	XXXX	XXXX	XXXX	TBD	N/A	XXXX
DSS-66	26M	XXXX	XXXX	XXXX	N/A	N/A	N/A	N/A	N/A	N/A

XXXX = Capability Currently Exists

N/A = Capability Not Planned

05/15/03

◆ RESOURCE NEGOTIATION STATUS

- 2003 WEEKS 29 – 32 (THRU 08/10/2003) RELEASED TO DSN ON 06/05/2003.
- 2003 WEEKS 33 – 36 (THRU 09/07/2003) DUE TO BE RELEASED ON 06/20/2003.
- 2003 WEEKS 45 – 48 (THRU 11/30/2003) WILL GO INTO NEGOTIATIONS STARTING 07/25/2003.

◆ **SPECIAL STUDIES/ACTIVITIES**

- SIRTf IMPACT STUDY – LAUNCH CHANGE

◆ **ON-GOING ACTIVITIES**

- MADb/TIGRAS TESTING AND TRAINING
- DOWNTIME PLANNING
- LUNAR-A LOAD STUDY – MISSION REPLAN
- ROSETTA LOAD STUDY – MISSION REPLAN
- ST5 LOAD STUDY

◆ **RARB - AUGUST 12, 2003**

- LOADING PROFILE LETTER DISTRIBUTED
- NEW TIMELINE POSTED
- REQUIREMENTS AND EVENTS POSTED
- ALL MISSION RESPONSES RECEIVED
- PRELIMINARY REDBOOK SCHEDULED FOR JULY 14

[HTTP://RAPWEB.JPL.NASA.GOV](http://rapweb.jpl.nasa.gov)

DSN Antenna Downtime Status and Forecast



<http://rapweb.jpl.nasa.gov/planning>

Antenna Downtime Status and Forecast

Changes to 2004 Downtime Schedule

- ❑ Currently there is a DSS-14 Antenna Controller Replacement/Hydrostatic Bearing task scheduled from weeks 28-47. It has been requested to extend the time by at least two weeks, to weeks 28-49 (22 week duration)
- ❑ Currently there is a DSS-45 Antenna Controller Replacement task scheduled from weeks 43-49. It has been requested that this task move to another year, and in its place schedule parts 1 and 2 of the DSS-45 Life Extension Task from week 33 – 49 (17 week duration) leaving the USC task currently scheduled in weeks 48 – 49.
- ❑ New proposal for DSS-27 NSP Implementation task to be performed in weeks 47 – 50 of 2004

The Addition of the DSS-27 NSP and Changes to the DSS-43 and DSS-63 ACR's will be presented at the August 2003 RARB for approval

Antenna Downtime Status and Forecast

Changes to 2005 Downtime Schedule

- ❑ Currently there is a DSS-65 Antenna Controller Replacement task scheduled from weeks 08 - 14. It has been requested that we add the DSS-65 Relocation and DSS-65 Life Extension Tasks to the ACR task and add three weeks to the front and 7 weeks to the end, and perform all tasks in weeks 05 – 21 of 2005 (17 week duration). Duration is unaffected even if Life Extension is not included
- ❑ Currently there is a DSS-43 Antenna Controller Replacement task scheduled from weeks 30 - 36. It has been requested that we add the DSS-43 Hydrostatic Bearing task to the ACR task and add one week to the front and 16 weeks to the end, and perform all tasks in weeks 29 – 52 of 2005 (24 week duration)

Antenna Downtime Status and Forecast

Changes to 2005 Downtime Schedule (Continued)

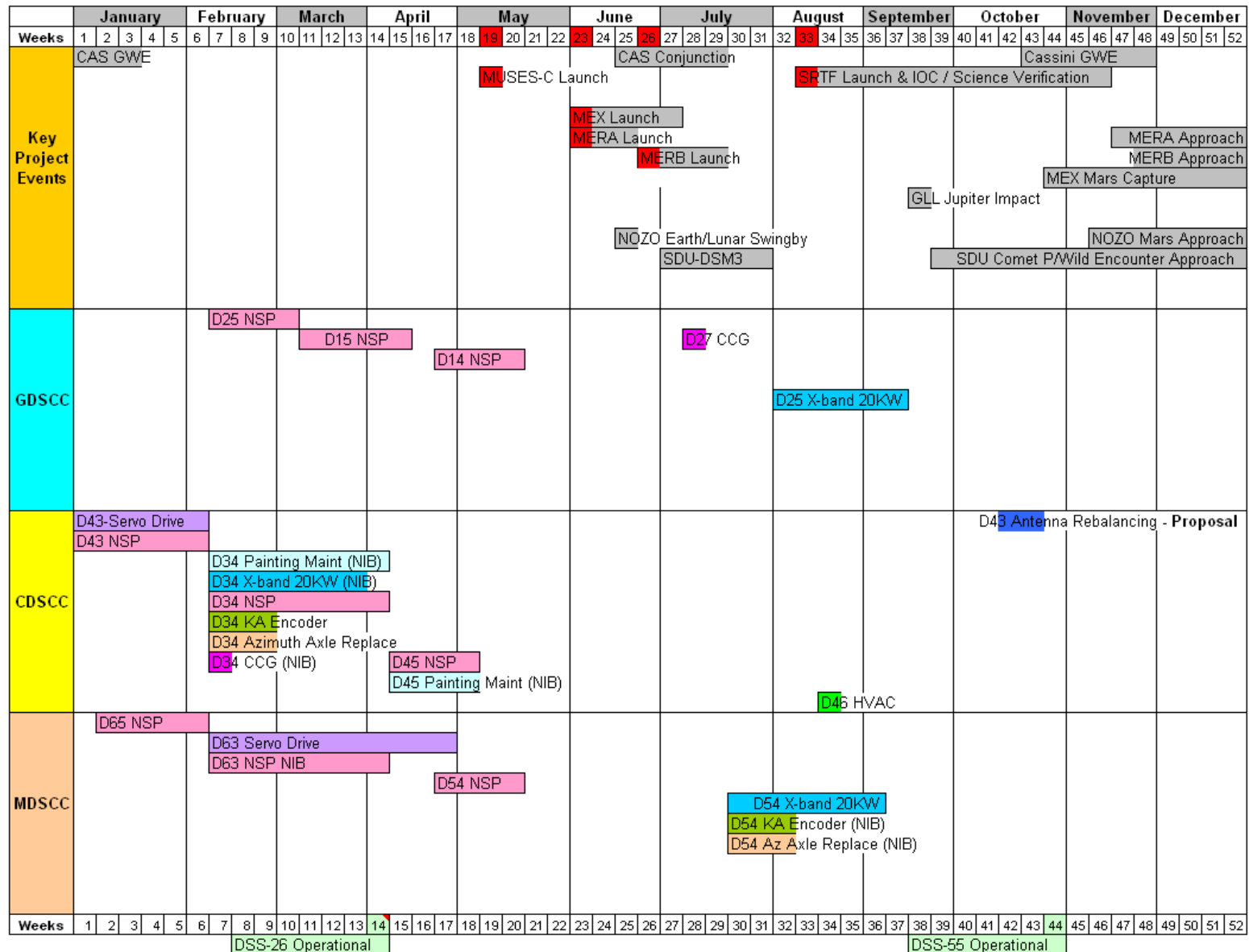
- ❑ Currently there is a DSS-63 Antenna Controller Replacement task scheduled from weeks 38 - 44. Due to changes to the DSS-43 time in 2005 it necessary to move this downtime to another year, and return previously moved supports back to the projects/users that were affected by the downtime.
- ❑ Currently there is a DSS-63 USC (Microwave Switch Controller) Task approved as NIB in weeks 38 – 39 of 2005, this task now coincides with the DSS-43 Antenna Controller Replacement Task. As a rule, two 70 meter antennas cannot be down at the same time therefore it is proposed to place the USC task in weeks 03 – 04 of 2005

Antenna Downtime Status and Forecast

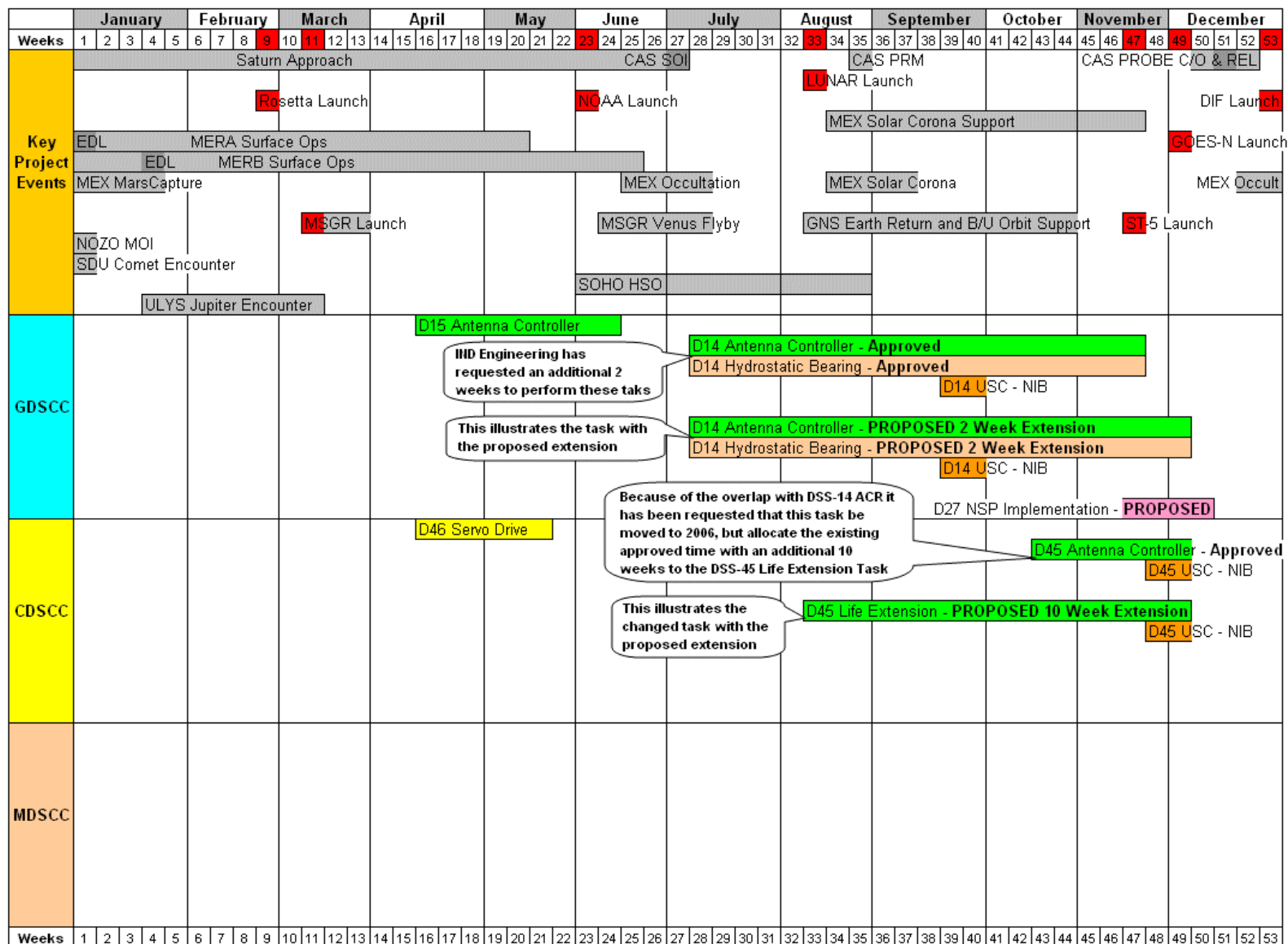
Changes to 2006 Downtime Schedule

- ❑ Add new proposal for DSS-45 Antenna Controller Replacement task (previously approved for weeks 43 - 49 of 2004) to be performed in weeks 44 - 52 of 2006 (9 week duration)
- ❑ Add new proposal for DSS-63 Antenna Controller Replacement Task (previously approved in weeks 38 – 44 of 2005) to be performed in weeks 21 - 35 of 2006 (15 week duration)
- ❑ Proposal for DSS-15 Life Extension in 2006 (weeks 25 - 35 and 43 - 52) has been rescinded

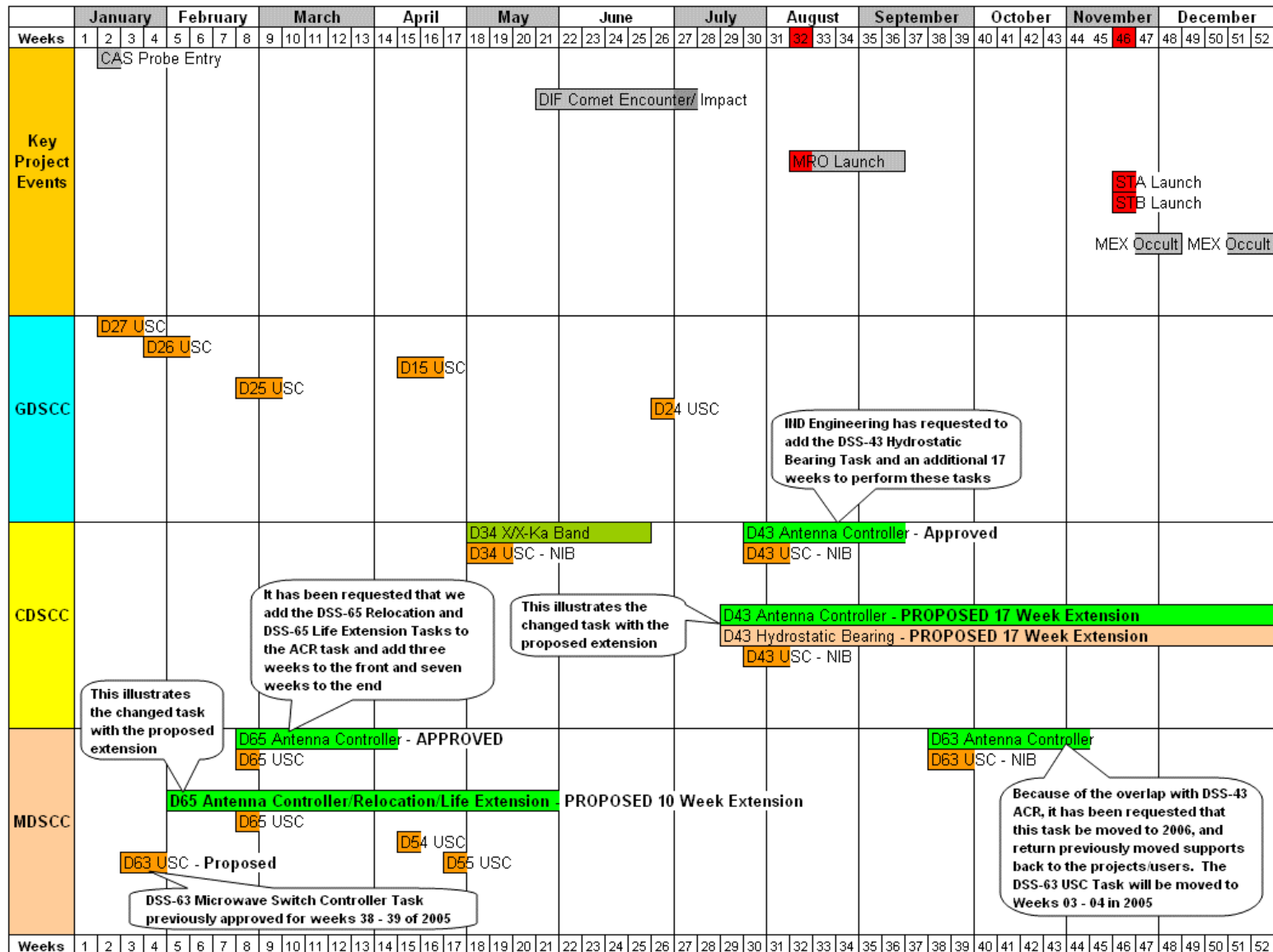
Antenna Downtime Status And Forecast 2003



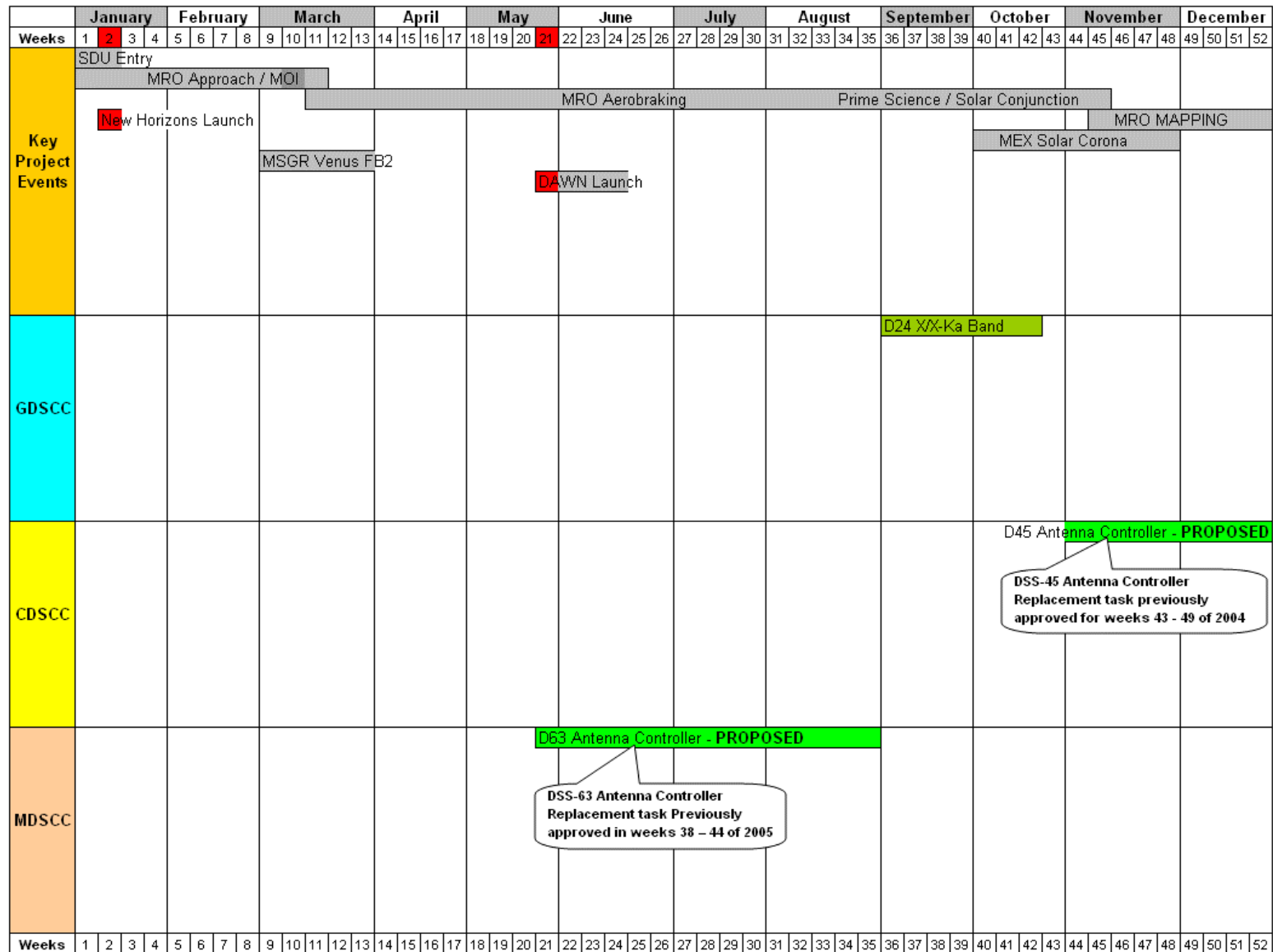
Antenna Downtime Status And Forecast 2004

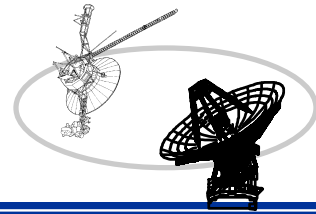


Antenna Downtime Status And Forecast 2005



Antenna Downtime Status And Forecast 2006





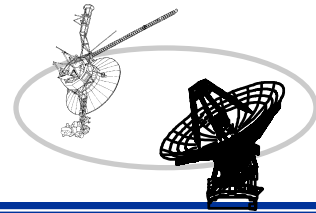
DSN Operations

Jim Buckley

June 19, 2003

NASA Jet Propulsion Laboratory

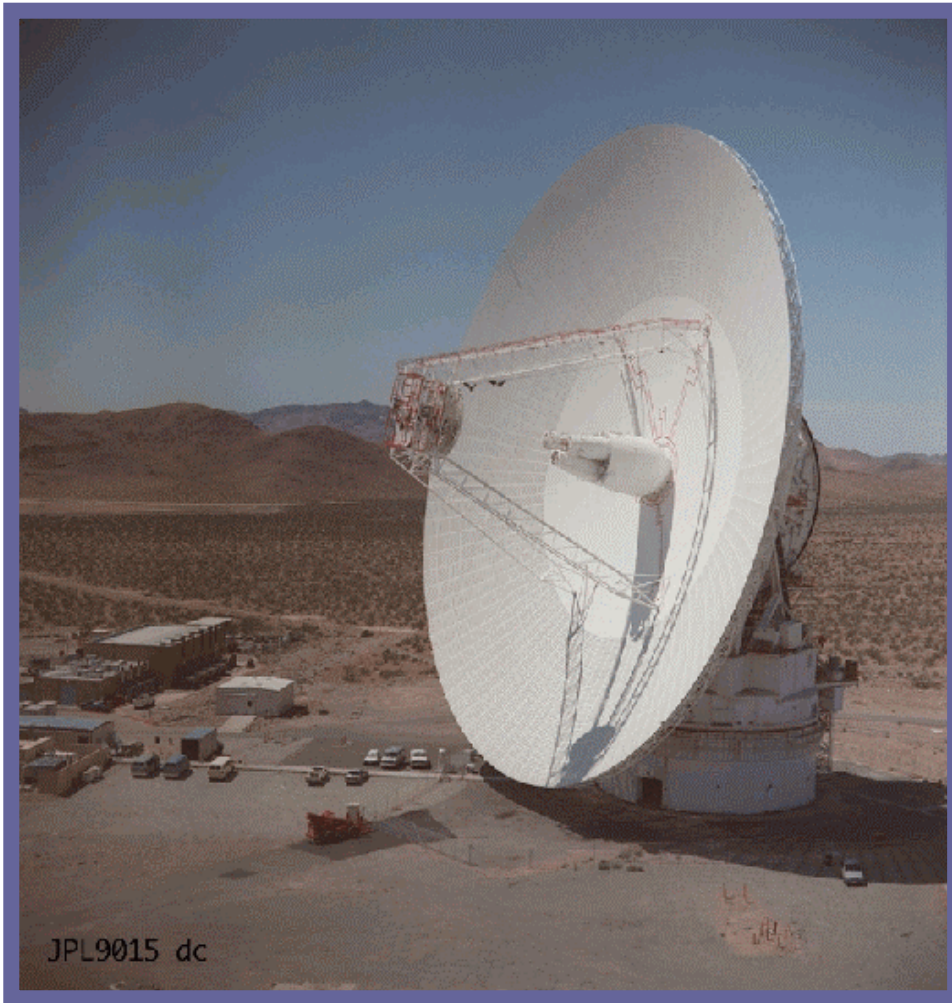
JOINT USERS RESOURCE ALLOCATION PLANNING COMMITTEE



DSN System Availability

<u>Data Type</u>	<u>MAR</u> <u>2003</u>	<u>April</u> <u>2003</u>	<u>May</u> <u>2003</u>
Telemetry	98.57%	98.34%	99.03%
Tracking	97.99%	96.98%	97.53%
Command	99.06%	97.59%	98.49%
Monitor	99.77%	99.66%	99.12%
Radio Science	99.95%	100%	99.87%
VLBI	99.77%	95.73%	96.55%

Goldstone Solar System Radar



Martin A. Slade

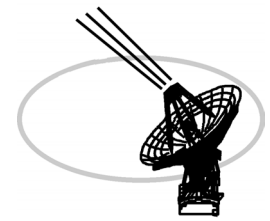
June 19, 2003

NASA Jet Propulsion Laboratory

Joint Users Resource Allocation Planning Committee Meeting



Goldstone Solar System Radar (GSSR)



- 2 of the 3 Mercury Goldstone/GBT observations in support of the MESSENGER Project were successful. The GBT failed on DOY 147, but support at DSS-14 was 100%. DOY's 151 and 152 worked at both stations.

147	1600	1730	2105	2135	DSS-14	GSSR	MERC/GBT	XTX
151	1605	1735	2220	2250	DSS-14	GSSR	MERC/GBT	XTX
152	1735	1905	2035	2105	DSS-14	GSSR	MERC/GBT	XTX

- The Operational Readiness Test for Mars Interferometry (using Mercury as a proxy for Mars) was successful:

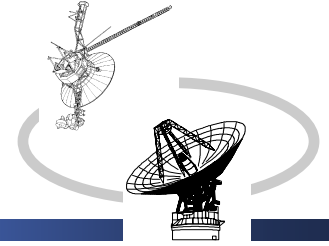
158	1725	1855	2130	2200	DSS-25	GSSR	MERC	INFRMY	NONE	1B5
158	1725	1855	2130	2200	GAVRT	GSSR	MERC	INFRMY		
158	1725	1855	2130	2200	DSS-14	GSSR	MERC	INFRMY	XTX	T012 1B5
158	1725	1855	2130	2200	DSS-13	GSSR	MERC	INFRMY	NONE	1B5

UPCOMING GSSR OBSERVATIONS

- Near-Earth Asteroid Observations on 1998 FH₁₂:

178	0805	0935	1735	1805	DSS-14	GSSR	AST1998FH12	XTX	T012	1B5
179	0845	1015	1815	1845	DSS-14	GSSR	AST1998FH12	XTX	T012	1B5
180	0925	1055	1855	1925	DSS-14	GSSR	AST1998FH12	XTX	T012	1B5

- Mars 4-station interferometry begins July 12 (local date)



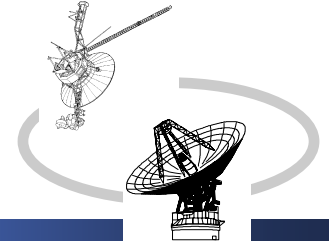
Radio Astronomy & Special Activities

**June 19, 2003
George Martinez**



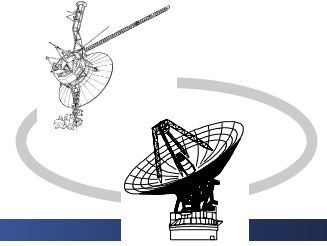
TEMPO

(Time and Earth Motion Precision Observations)



- **DOY 148**
 - No problems were reported by either DSS-15 or DSS-65.
 - Data tapes were sent to the JPL correlator for processing
- **Metrics**
 - 100% of data time utilized

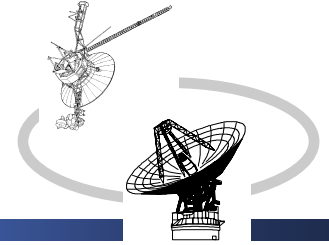
Catalog Maintenance & Enhancement (Cat M&E)



- **DOY 139**
 - No problems were reported by either DSS-15 or DSS-65.
 - Data tapes were sent to the JPL correlator for processing
- **DOY 143**
 - DSS-15 reported data was lost due to a problem with the ACS.
 - DSS-45 reported data was lost due to problems with the Video Converters, PCFS, EAC, and recorders.
 - Data tapes were sent to the JPL correlator for processing.
- **Metrics**
 - 73% of data time utilized.



Space Geodesy Program (SGP)



- **Europe-68**

- The purpose of the Europe experiments is to determine station coordinates and their evolution in the European geodetic VLBI network with the highest precision possible.
- DSS-65 reported the antenna halted due to a problem with the elevation motor.
- The data tape was sent to the Bonn correlator for processing.

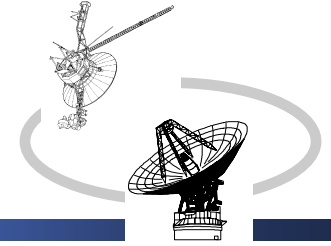
- **IVS-T2017**

- The objective of the International VLBI Service (IVS)-T2 sessions is to monitor the Terrestrial Reference Frame (TRF) via monthly sessions. All geodetic stations participate in at least three T2 sessions each year. These sessions replace the IRIS-S sessions observed in previous years.
- DSS-45 had a problem with one of their local procedures.
- The data tape was sent to the Bonn correlator for processing.

- **Metrics**

- 96% of data time utilized.

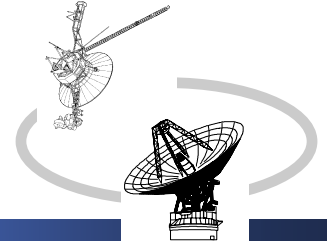
Guest Observing



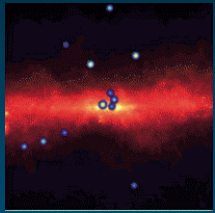
- **BG134B**
 - This was a K-band dual polarization experiment to study water megamasers in an attempt to map sub-parsec accretion disks of supermassive black holes.
 - Observations were done using DSS-14, DSS-63, VLBA, VLA, and the 100-m telescope at Effelsburg.
 - DSS-63 reported no problems during the observation.
 - DSS-14 had major pointing problems.
 - At best, data will be degraded.
 - Final determination pending correlation.
 - The data tapes were sent to the Socorro correlator for processing.



Gravity Probe-B



- **BR088B**
 - This experiment observed the source HR8703 (IM-Pegasus), which will be used as a guide star for the Gravity Probe-B mission.
 - This radio source is being observed for extremely accurate position (Astrometry) and measurement of its proper motion in an inertial frame.
 - Only Astrometric VLBI can yield this accuracy.
 - No problems were reported by DSS-14, DSS-43, or DSS-63.
 - The data tapes were sent to the Socorro correlator for processing.



INTEGRAL



<http://sci.esa.int/home/integral/index.cfm>

Joint Users Resource Allocation Planning (JURAP) Committee Meeting

Dwight P. Holmes
June 19, 2003

NASA / Jet Propulsion Laboratory



INTEGRAL

OPERATIONS



- **DSN Status**
 - The Integral project has enabled a new downlink symbol rate of 262144 sps.
 - The previous symbol rate was 209715.2 sps.
 - The new symbol rate configuration data files have been update at both DSS-16 and DSS-24
 - Both stations have successfully supported the new rate.
 - ESA has confirmed that the random single frame errors are gone.
 - There has been now evidence of the single frame error anomaly since the communications fix and the virtual channel split.
 - ESA is quite happy with DSN support but it is not perfect.
 - Hardware problems at DSS-16 remain, TCP interface, Antenna Controller, & Multifunction Receivers.
 - Have had a presumed configuration error in which one of the Virtual Channels did not get to AMMOS.
 - Anomaly occurred once during a pass, and once during a pre-pass calibration, but was fixed prior to BOT



Operations

- **DSN Status – con't**
 - A time tag discrepancy between the data collected at Goldstone and the same data collected at the ESA Redu station has been under discussion during weekly teleconferences.
 - Two time tag problems caused some difficulty at the beginning of operations, one has been fixed the other is a known fixed offset
 - Initially the implementation at DSS-24 time tagged the end of the frame vs the start of a frame. That has been corrected
 - Secondly , the SLE implementation time tags the start of the attached sync word vs the start of the transfer frame. This creates a known 32 bit offset. Will be corrected later this year
 - Variable TimeTags were still a problem, on the order of 150 usec.
 - Variable time tag has been determined to be a problem at ESA's Redu station.
 - Also ESA believe there is a time bias aboard the INTEGRAL spacecraft.
 - ESA has confirmed the accuracy of the Goldstone time tags.



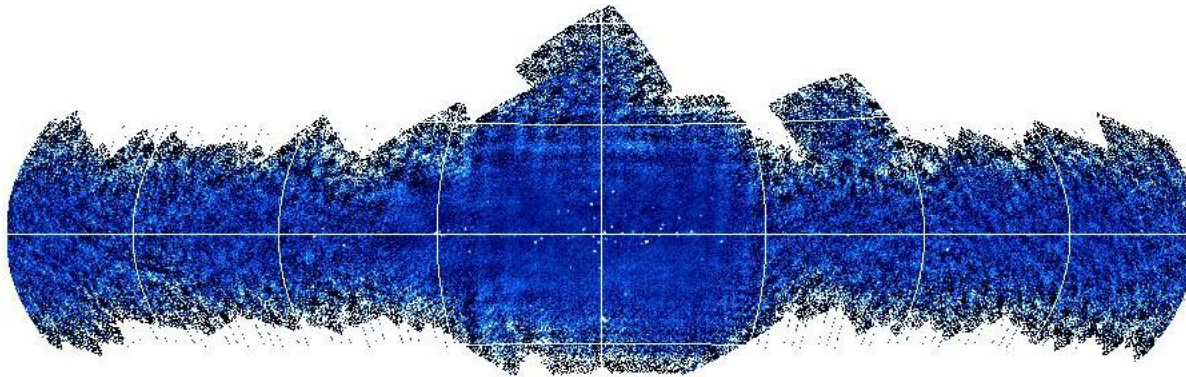
INTEGRAL



INTEGRAL Science

Science Results:

- The first Galactic Center Deep Exposure (GCDE), a major part of the INTEGRAL Core Program was performed between February 28 and May 1st which led to the issue of numerous IAU circulars and Astronomical Telegrams from the ISDC.

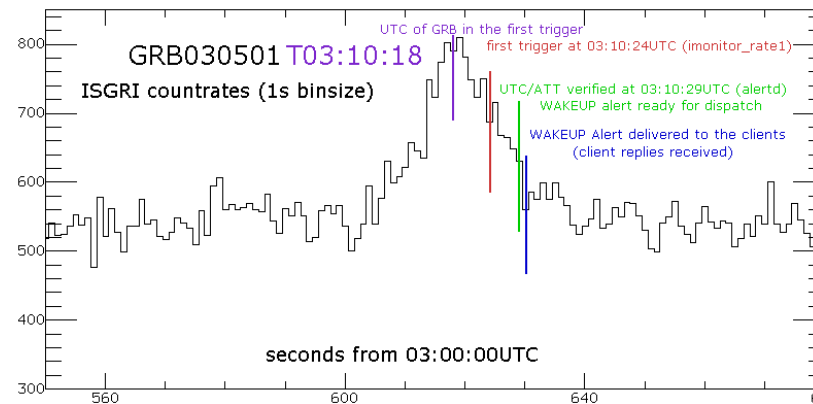


- IBIS/ISGRI mosaic image of the Galaxy in the 15-40 keV energy band. The image includes all Galactic Plane Scans (GPS) and all Galactic Center Deep Exposures (GCDE) from launch up to revolution 67 (May 4, 2003).



INTEGRAL Science

- **Science results - con't.**
 - **Three more gamma-ray bursts have been localized by IBAS since the last ISDC report Gamma Ray Bursts: GRB 030227, GRB 030320 and GRB 030501**

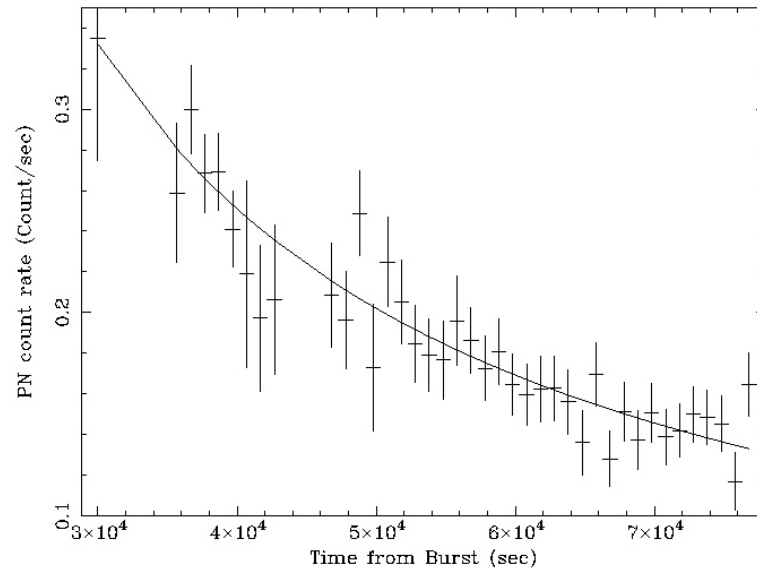


- **Lightcurve of GRB 030501 measured with IBIS/ISGRI. The arrival time of the IBAS alert packet to the clients is marked by the blue line. Half of the delay is due to the buffering of the data on board and to the transmission of the data from the satellite to ISDC. The delay induced by IBAS itself is 12 seconds.**

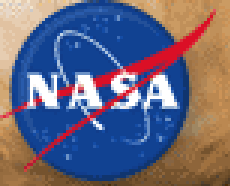


INTEGRAL Science

- **Science results – con't.**
 - This is the first GRB for which the rapid localization provided by IBAS led to the identification of an optical transient and an X-ray afterglow. The other major ESA astrophysical satellite, XMM-Newton, was pointed at the location of GRB 030227 after only eight hours and could detect the X-ray afterglow while its emission was still relatively bright.



- Light curve of the GRB 030227 afterglow measured with the EPIC camera on-board XMM-Newton.



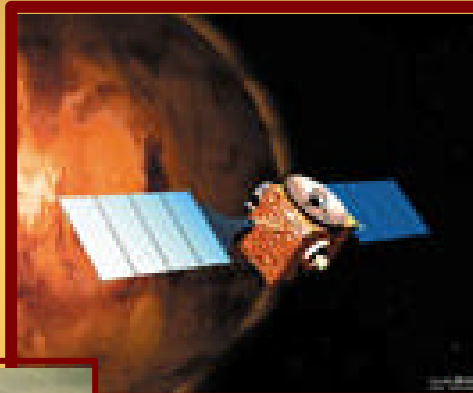
U.S. Participation in Europe's *Mars Express*

Jet Propulsion Laboratory
California Institute of Technology

Presentation to the Joint Users Resource Allocation Planning (JURAP) Meeting

Dwight P. Holmes

June 19, 2003



<http://www.sci.esa.int/marsexpress/>



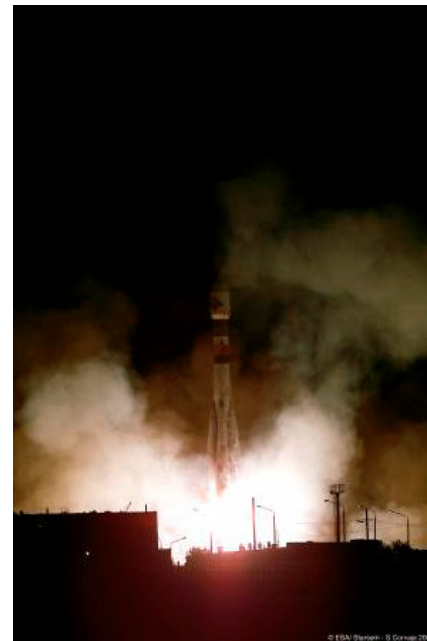
U.S. Participation in Europe's *Mars Express*

Jet Propulsion Laboratory
California Institute of Technology



Launch and LEOP

- Mars Express launch on schedule @ 17:45:26 aboard a SOYUZ/FEGRAT from the Baikonur Cosmodrome
- DSS-34 and DSS-46 provided backup support for initial acquisition.
- Transition to Safe Hold mode
star trackers would not converge.
- Entry into full safe mode on 3 June
unrelated to star trackers



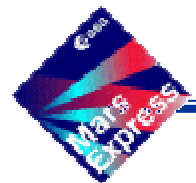
MEX

June 19, 2003 DPH- 2



Launch and LEOP

- **DSS-54 provided uplink during safe mode contingency**
 - Contingency was the result of a low noise output on the gyroscope and the on-board system believing the gyroscope had failed.
 - Performance monitor recalibrated.
 - **Star Tracker anomaly due to stray light**
 - Required offset at LEOP designed to be 47 degrees. Actually offset required to reduce stray light @ 65 degrees
 - Stray source was the Sun.
 - As a result of ESA continuing investigation DSS-54 and DSS-24 continued to provide prime support throughout the remainder of the week.





Launch and LEOP

- **Because of the star tracker anomaly the switch from S-band to X-band was delayed.**
 - Performance issues at ESA's Korou station required DSS-24 support through 12 June
 - DSN released from further support on 13 June
- **Mission now on X-band and has completed the LEOP phase.**
 - MEX undergoing commissioning
 - Beagle II clamps released and integrity verified
 - Full X-band test using nominal SOE as a precursor to Radio Science verification tests will be conducted on Friday 20 June.





U.S. Participation in Europe's *Mars Express*

Jet Propulsion Laboratory
California Institute of Technology



Commissioning

- **Five Radio Science verification pass will be conducted with the DSN beginning 6 July.**
- **First Delta DOR pass to be a test pass on 20 July**
 - **DDOR campaign on 4 August**
- **As of today MEX is healthy and on its way to Mars with a very good trajectory – minimum delta V required.**
 - **TCM-1 @ L + 50 days**
- **ESA has expressed there great appreciation for the near perfect DSN support**



MEX

June 19, 2003 DPH- 5



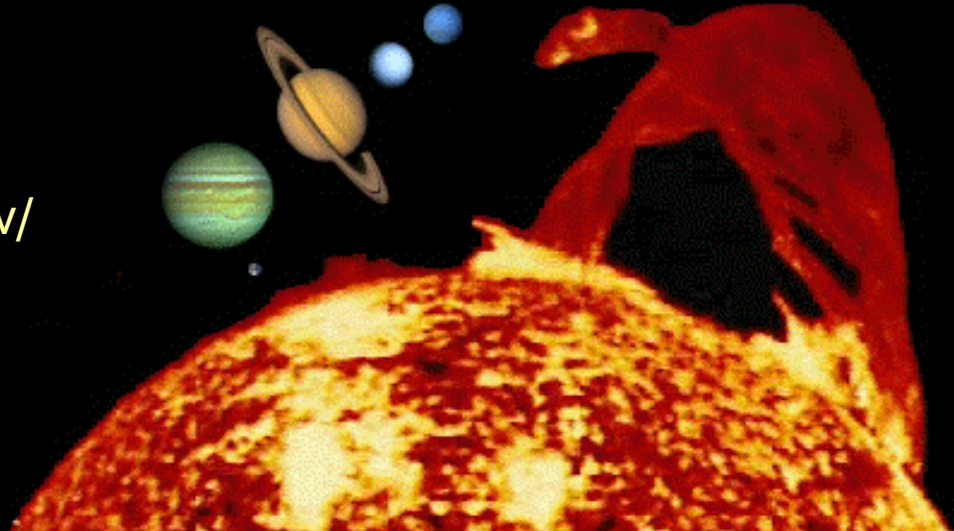
ulysses

JOINT USERS RESOURCE ALLOCATION PLANNING COMMITTEE

B. Brymer

June 19, 2003

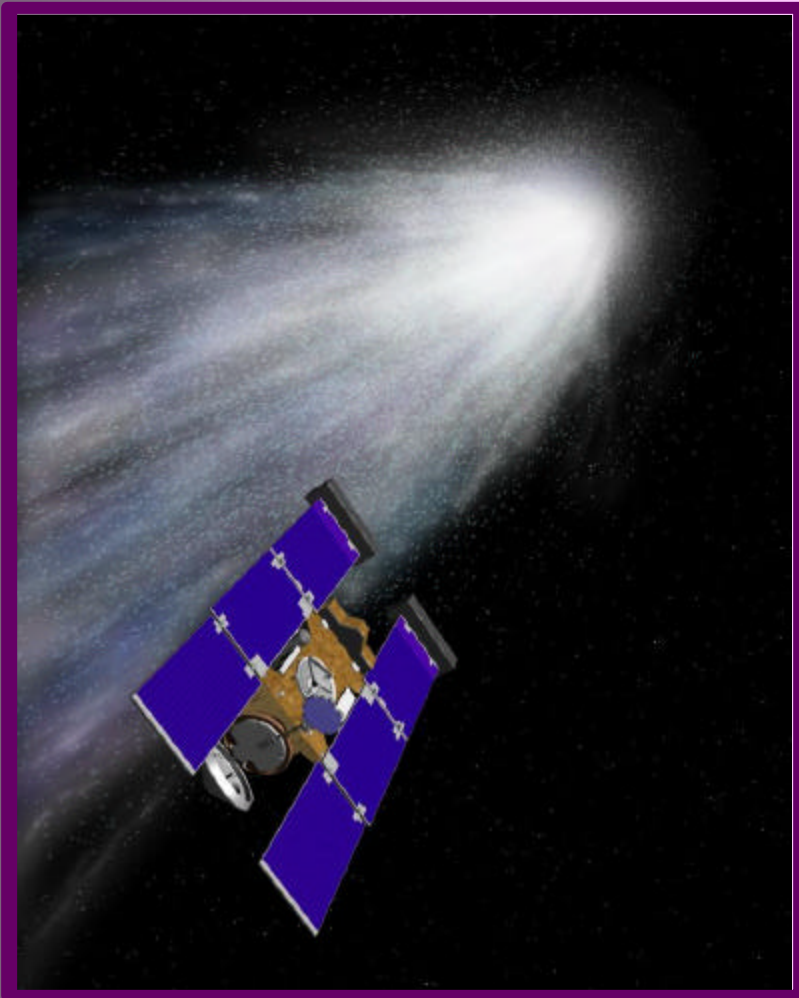
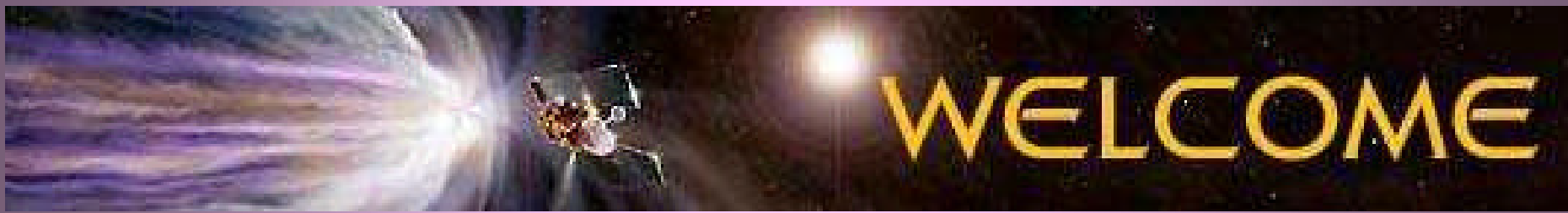
NASA Jet Propulsion Laboratory



ULYSSES

JOINT USERS RESOURCE ALLOCATION PLANNING COMMITTEE

- NOMINAL SPACECRAFT OPERATIONS CONTINUE
- SPACECRAFT POWER AND THERMAL RECONFIGURATIONS AND INSTRUMENT CALIBRATIONS ARE PERFORMED AS REQUIRED
- SPACECRAFT EARTH POINTING MANEUVERS ARE BEING PERFORMED EVERY 5 DAYS
- NSP PROVIDING GOOD SUPPORT
- LOST HUS DATATION CALIBRATION CAPABILITY WITH NSP
REPLACEMENT PROCEDURE IN DEVELOPMENT



STARDUST

JOINT USERS

RESOURCE ALLOCATION

PLANNING COMMITTEE

R. E. Ryan
JUNE 19, 2003

NASA Jet Propulsion Laboratory

<http://stardust.jpl.nasa.gov>

STATUS

SPACECRAFT IS HEALTHY (6/19/03)

PRESENTLY 2.06 AU from EARTH

00:34:14 RTLT

1.06 AU from SUN

TELEMETRY BIT RATE IS 504 bps (on HGA/34 HEF)

BETWEEN SUPERIOR CONJUNCTIONS

SEP (approx) 7 degrees

CURRENT ACTIVITIES

- **COMET ENCOUNTER ACTIVITY PLANNING**
 - ENCOUNTER SEQUENCE DETAILS IN WORK
 - WEEKLY STL RUNS TO CHECK AND REFINE
- **DEEP SPACE MANEUVER-3**
 - TWO PARTS, JUNE 17 AND 18
 - 25 MINUTE BURN EACH DAY, (approx) 35 M/S EACH
 - OFF EARTH POINT, NO COMM DURING BURN
- **DSMS SUPPORT SATISFACTORY (barely) THIS PAST PERIOD**
 - NUMEROUS AND VARIED STATION PROBLEMS
 - DR's and ISA's DOCUMENT
NAVCAM IMAGE CALIBRATION AND REPLAY
RADIO METRIC DATA FOR DSM-3
 - GOOD SUPPORT FOR THE MANEUVER

<http://stardust.jpl.nasa.gov>

UPCOMING EVENTS

1 AU EDL TESTING JUNE 24 TO JULY 3, 2003

TCM 9 (CLEANUP) JULY 17

SUPERIOR CONJUNCTION ON AUGUST 17 (0.9 DEGREES)

SOLAR RANGE MINIMUM WILL BE 0.98 AU ABOUT 7/22

EARTH RANGE WILL BE 2.0 AU

BELOW 2 DEGREES SEP FROM AUGUST 2 THROUGH OCTOBER 2

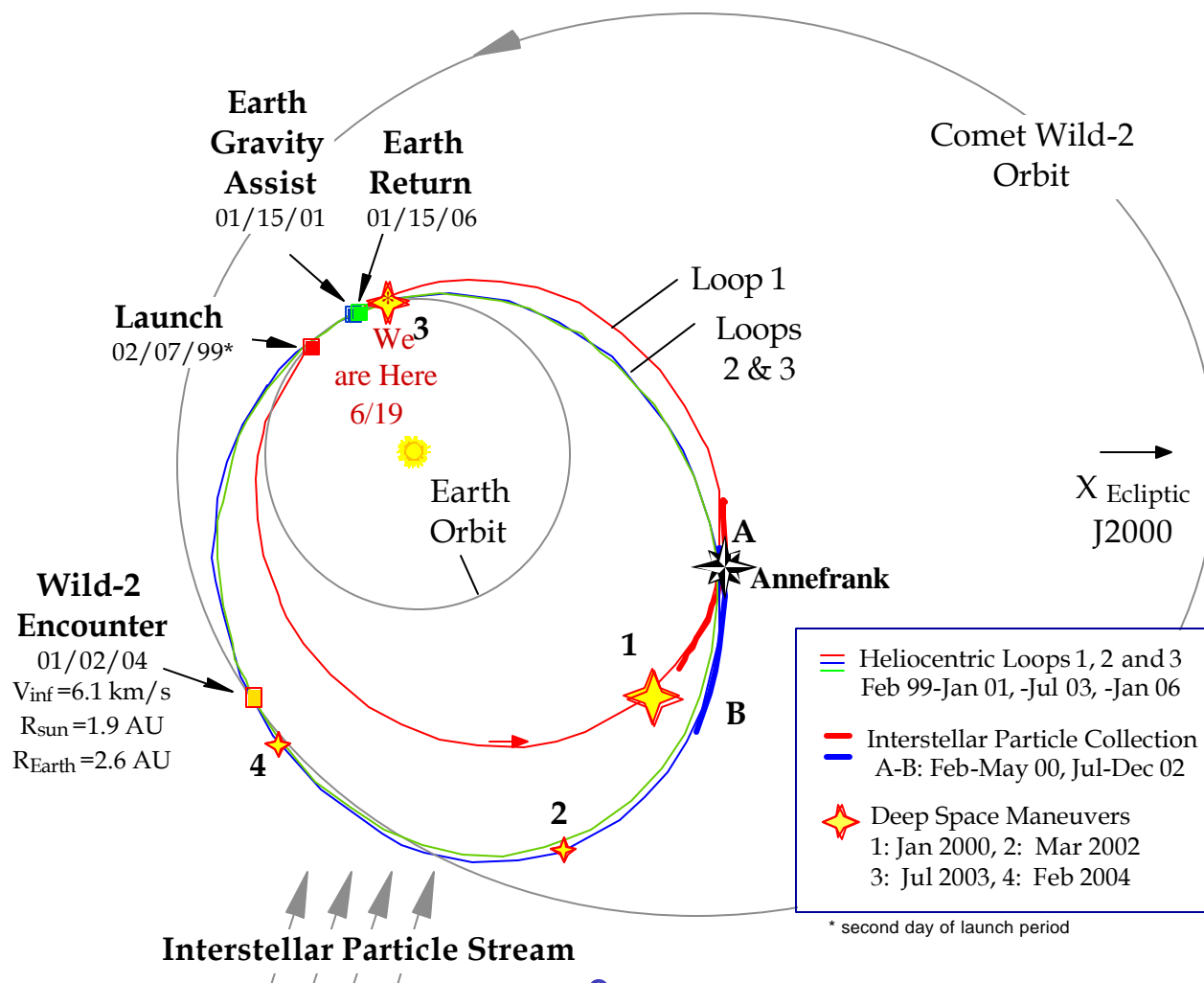
CONCERN

MID-RANGE NEGOTIATION IS NOT FAR ENOUGH IN THE FUTURE

DIFFICULT TO BUILD SEQUENCES

STARDUST

Report to JURAP





VOYAGER

FLIGHT OPERATIONS

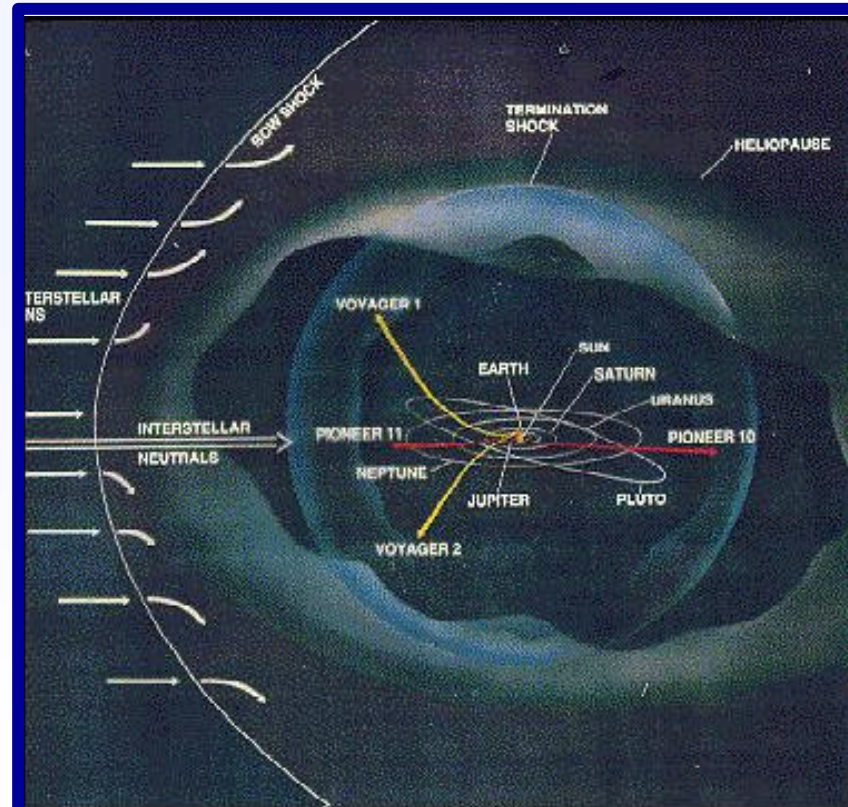
JOINT USERS RESOURCE ALLOCATION PLANNING COMMITTEE

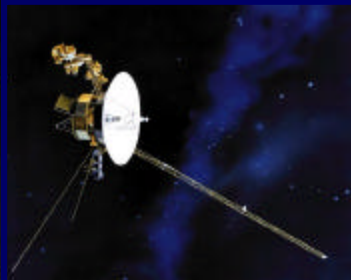
**Jefferson Hall
June 19, 2003**

NASA Jet Propulsion Laboratory



<http://voyager.jpl.nasa.gov>





VOYAGER

FLIGHT OPERATIONS



FLIGHT SYSTEM STATUS

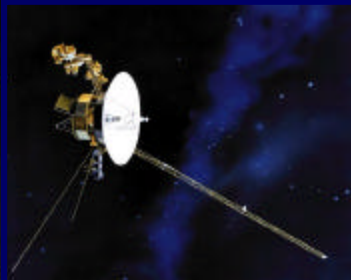
MISSION STATUS

VOYAGER 1

- * HELIOCENTRIC DISTANCE – 88.6 AU, RTLT – 24h21m10s
- * SPACECRAFT REMAINS HEALTHY
- * MAJOR ACTIVITY: DTR PLAYBACK, PMPCAL, & ASCAL

VOYAGER 2

- * HELIOCENTRIC DISTANCE – 70.6 AU, RTLT – 19h18m54s
- * SPACECRAFT REMAINS HEALTHY
- * MAJOR ACTIVITY, PMPCAL



VOYAGER

FLIGHT OPERATIONS

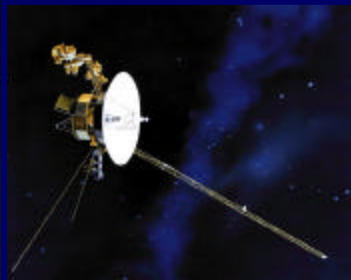


GROUND SYSTEM STATUS

(May 10, 2003 - June 13, 2003)

DSN - OVERALL SUPPORT – GOOD

- Voyager 1:
 - DSS-15 on 5/11 (DOY 131), 0.6 hours loss due to a SCP failure [DRs G102734/740].
 - DSS-45 on 5/15(DOY 135), .6 hours loss due to weather [DR C102635].
 - DSS-63 on 5/28 (DOY 148), .6 hours loss due to project SOE problems [DR M101631].
- Voyager 2:
 - DSS-34 on 5/20 (DOY 140), 0.9 hours loss due to rain [DR C102381].
 - DSS-45 on 6/1 (DOY 152), 2.4 hours loss due to rain [DR C102430].



VOYAGER

FLIGHT OPERATIONS



TOTAL SUPPORT TIME, OUTAGE TIME, % OF OUTAGE TIME

S/C	SCHED. SUPPORT	ACTUAL SUPPORT	70M TIME	SIGNIFICANT OUTAGE TIME	% OF OUTAGE TIME
31	509.6	509.6	143.5	1.8 (3.1)	.96
32	389.2	385.1	68.6	3.3 (2.2)	1.4

VOYAGER HOMEPAGE - <http://voyager.jpl.nasa.gov>



Design by
Charley Kohlhase

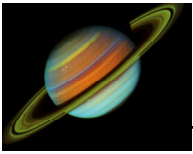
CASSINI

<http://saturn.jpl.nasa.gov/cassini/index.shtml>

Joint Users Resource Allocation Planning (JURAP) Committee Meeting

Dave Doody
June 19, 2003

NASA / Jet Propulsion Laboratory



Cassini / Huygens

- **In Space Science Subphase**

- Space Science observations continue
- Cassini/Huygens 31st PSG was held in Venice, Italy during the week ending 05/23/03
- Superior Conjunction RS Experiment is in progress, 30 days total.
 - Reduced science objectives and DSN coverage, because of required use of thrusters vs reaction wheels
 - Minimizing use of RWA-3 which has exhibited friction problem.
 - RS Ka Translator (KaT) is exhibiting its “bad frequency region” problem and has been unusable so far.
 - Taking steps to investigate the problem
 - Cycling KaT power multiple times via R/T CMD
 - Usable data is being acquired via the Ka-1 D/L signal coherent with the X-band U/L
- Approach Science mission phase begins in January
- Tour advanced science planning continues

- **Operations**

- Daily ops going well
 - Recovered from safing DOY 137.
 - Excellent DSN support and NOPE support
 - Corrections to the Network Operations Plan are in progress.
 - Minor S/C instrument adjustments, cals, and anomalies being worked near real time.
 - Working Huygens Mission Data Delivery plans for the '05 Titan mission
 - DSMS considering Cassini's request for replacement of NOCC-R/T display system with a single NMC instance to be used in evaluation of Project DSN display solutions for the long term.

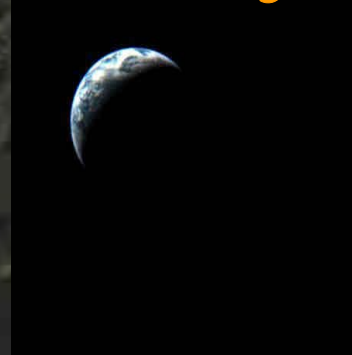
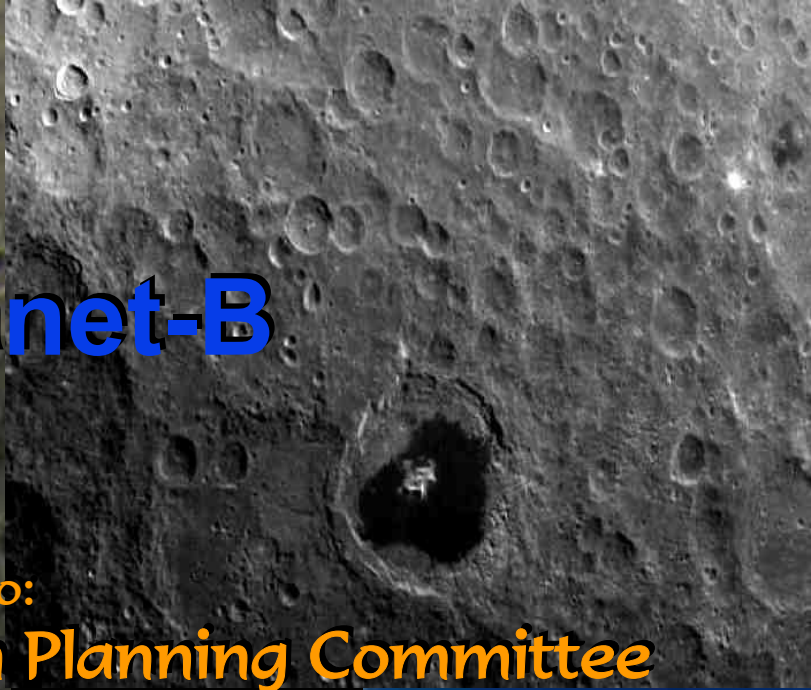
Nozomi/Planet-B

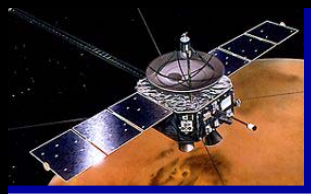
Presentation to:
Joint Users Resource Allocation Planning Committee

Mark Ryne

June 19, 2003

<http://www.isas.ac.jp/e/enterp/missions/nozomi/cont.html>





Significant Events

Nozomi/Planet-B

- Spacecraft in heliocentric cruise between earth swingbys
- Unable to collect navigation data since early January 2003 due to thermal and power
- DSN successfully resumes tracking support May 21, 2003
 - Antenna aspect angle between 90 and 100 degrees
- Maneuver DV16 on May 30, 2003 (8.1 m/s)
- Maneuver DV16c on June 16, 2003 (0.4 m/s)
- Earth swingby 2 (June 19, 2003 14:44 UTC)
 - Altitude = 11,028 km
 - Delivery error approximately 5 km in B-Plane



DSMS Support

Nozomi/Planet-B

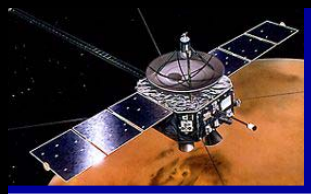
- **General Support**
 - Continuous view from northern hemisphere
 - Required procedural changes in DSN predicts generation
 - Frequent late schedule updates due to changes in Japanese tracking schedule
 - Employed non-standard LCP uplink to improve signal margin
- **Δ DOR campaign**
 - Navigation team generates DKF input files
 - 9 Goldstone/Madrid Δ DOR passes attempted
 - 16 independent measurements obtained
 - 1 measurement failed due to procedural error
 - New Δ DOR processing techniques developed to deal with severely degraded data
 - Rapid delivery to navigation to meet delivery schedule
 - Typically less than 8 hours



DSMS Support, Cont.

Nozomi/Planet-B

- Radiometric tracking
 - SRA range data degraded but usable (~3 m noise)
 - Doppler data not valid
- No tracking within 3 day of Earth swingby due to unfavorable antenna geometry
- Orbit determination deliveries to ISAS on May 28 and 30, 2003 and June 11 and 16, 2003
 - Support maneuver design and Earth swingby targeting
- Earth swingby 2 successfully executed this morning



Upcoming Activities

Nozomi/Planet-B

- **Post swingby trajectory correction maneuvers**
 - June 27 and July 3, 2003
 - Δ DOR campaign
- **Earth-Mars cruise support**
 - Return to normal Earth point attitude
 - Doppler and SRA range
 - One Δ DOR every two weeks
- **Japanese will attempt to repair spacecraft beginning in mid-July**
- **Mars arrival on December 13/14, 2003**
- **No DSN navigation support following Mars orbit trim maneuver**
- **Radio science support begins May 2004**

Mars Global Surveyor

Flight Operations Status

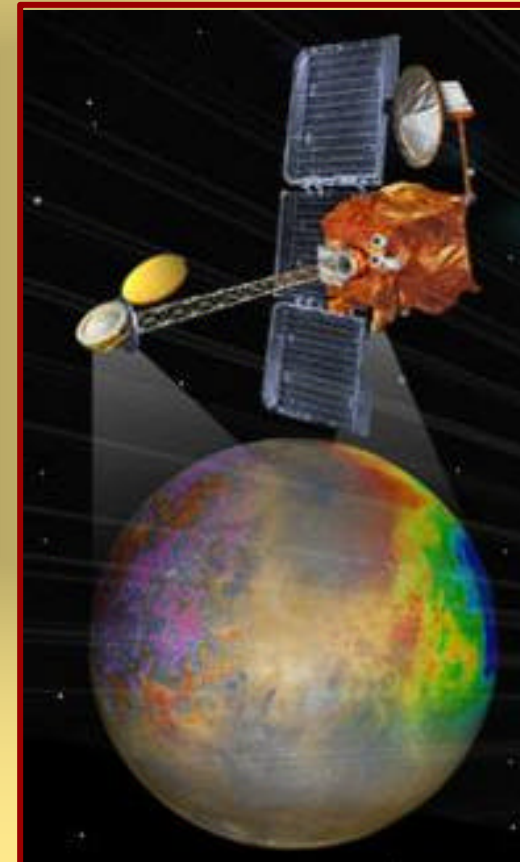
Presentation to the

**Joint Users Resource Allocation
Planning (JURAP) Meeting**



E. E. Brower

June 19, 2003



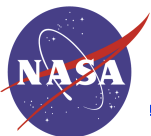


Mars Global Surveyor

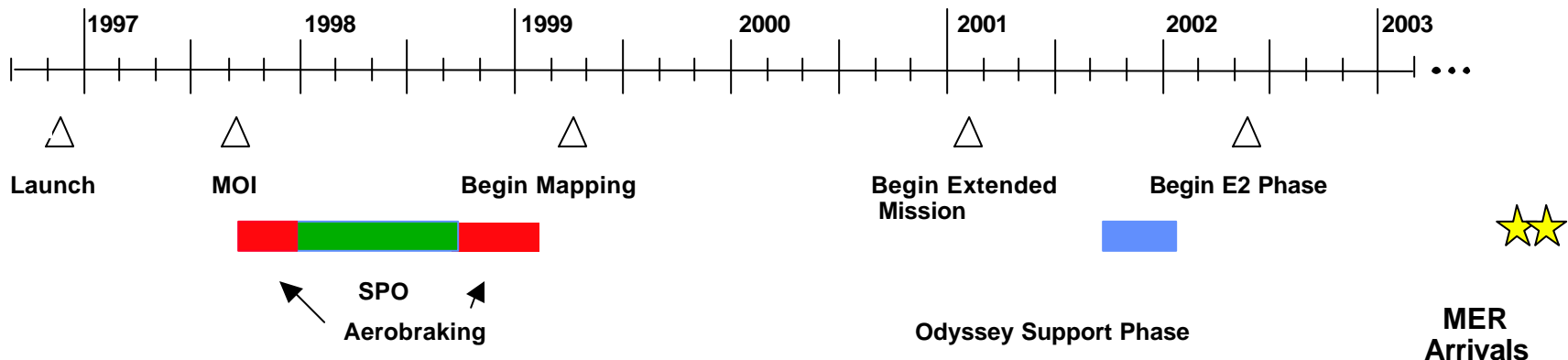
AGENDA



- Project Snapshot
- Recent Events/Accomplishments
- Mission Assessment
- Comments

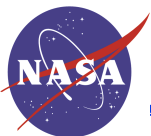


Mars Global Surveyor Project Snapshot

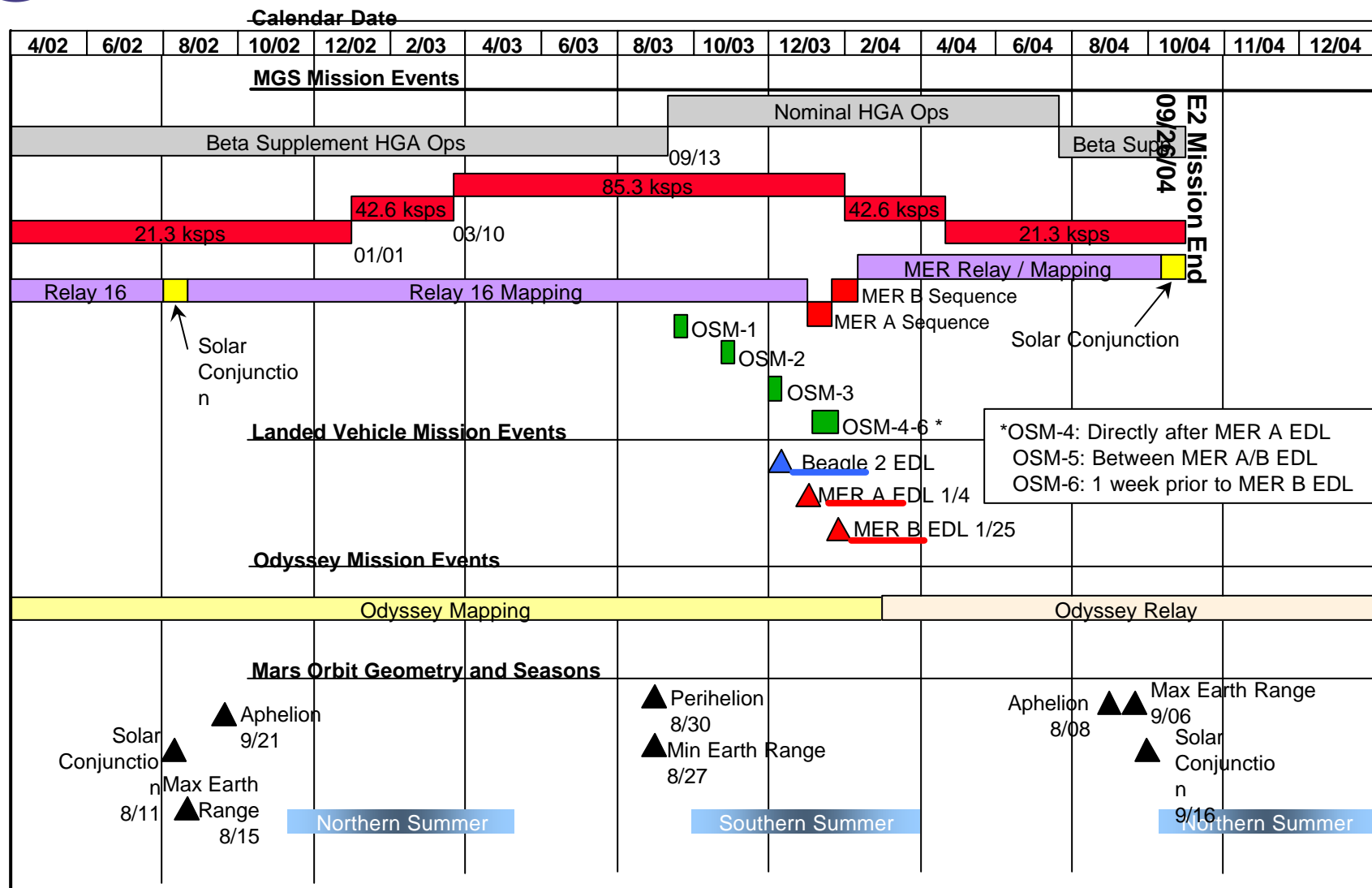


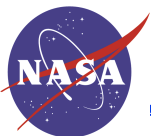
PHASE NAME	START DATE	END DATE	ORBITS	ORBITE
PRELAUNCH PHASE	1994-10-12	1996-11-06		
LAUNCH PHASE	1996-11-06	1996-11-07		
CRUISE PHASE	1996-11-07	1997-09-12		
INSERTION PHASE	1997-09-12	1999-03-09	1	1683
MAPPING PHASE(687DAYS)	1999-03-09	2001-01-31	1	8505
EXTENDED MISSION PHASE	2001-02-01	2002-04-22	8506	13960
EXTENDED EXTENDED (E2)	2002-04-22	2004-08-19	13961	29416

MGS

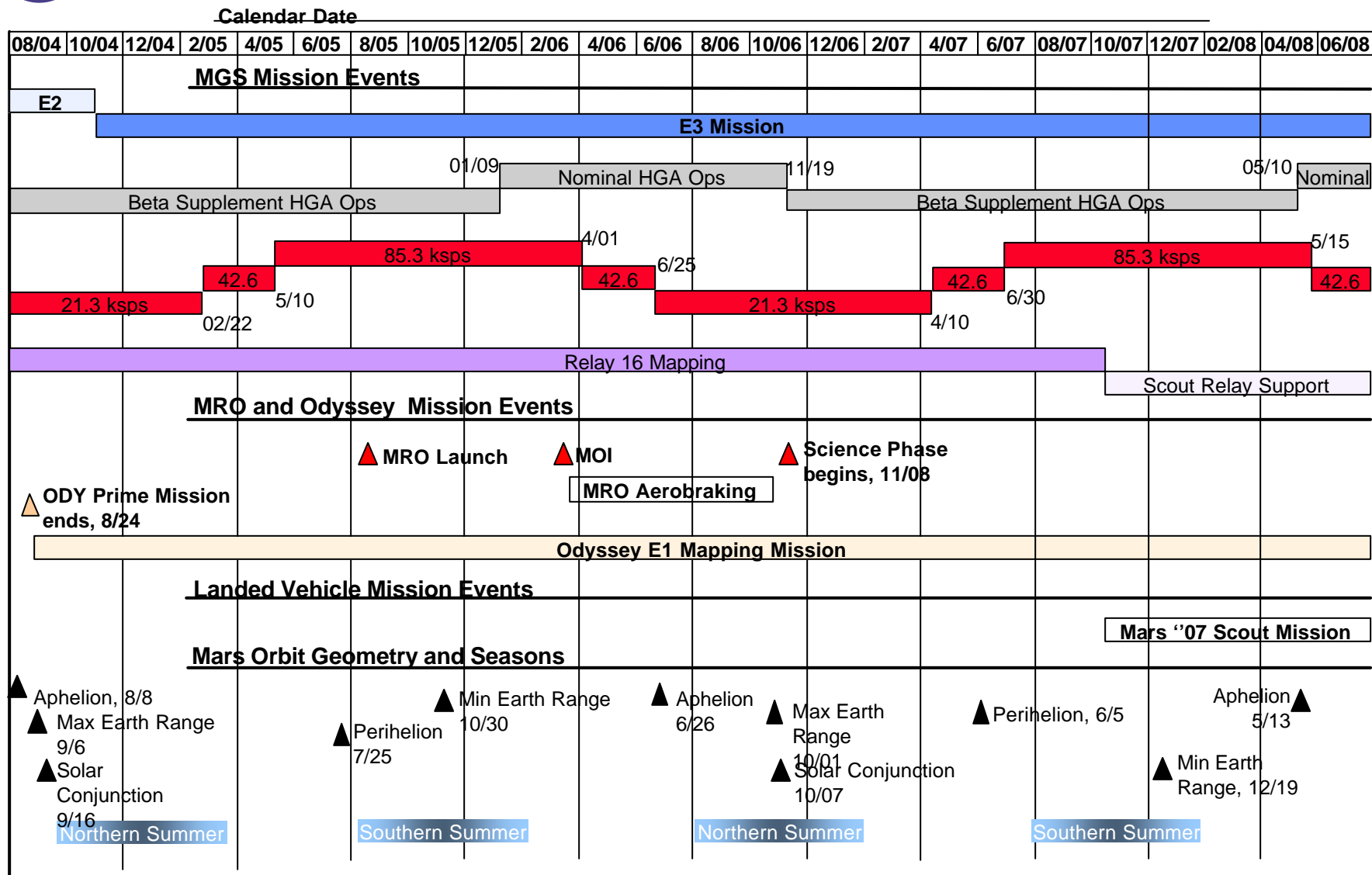


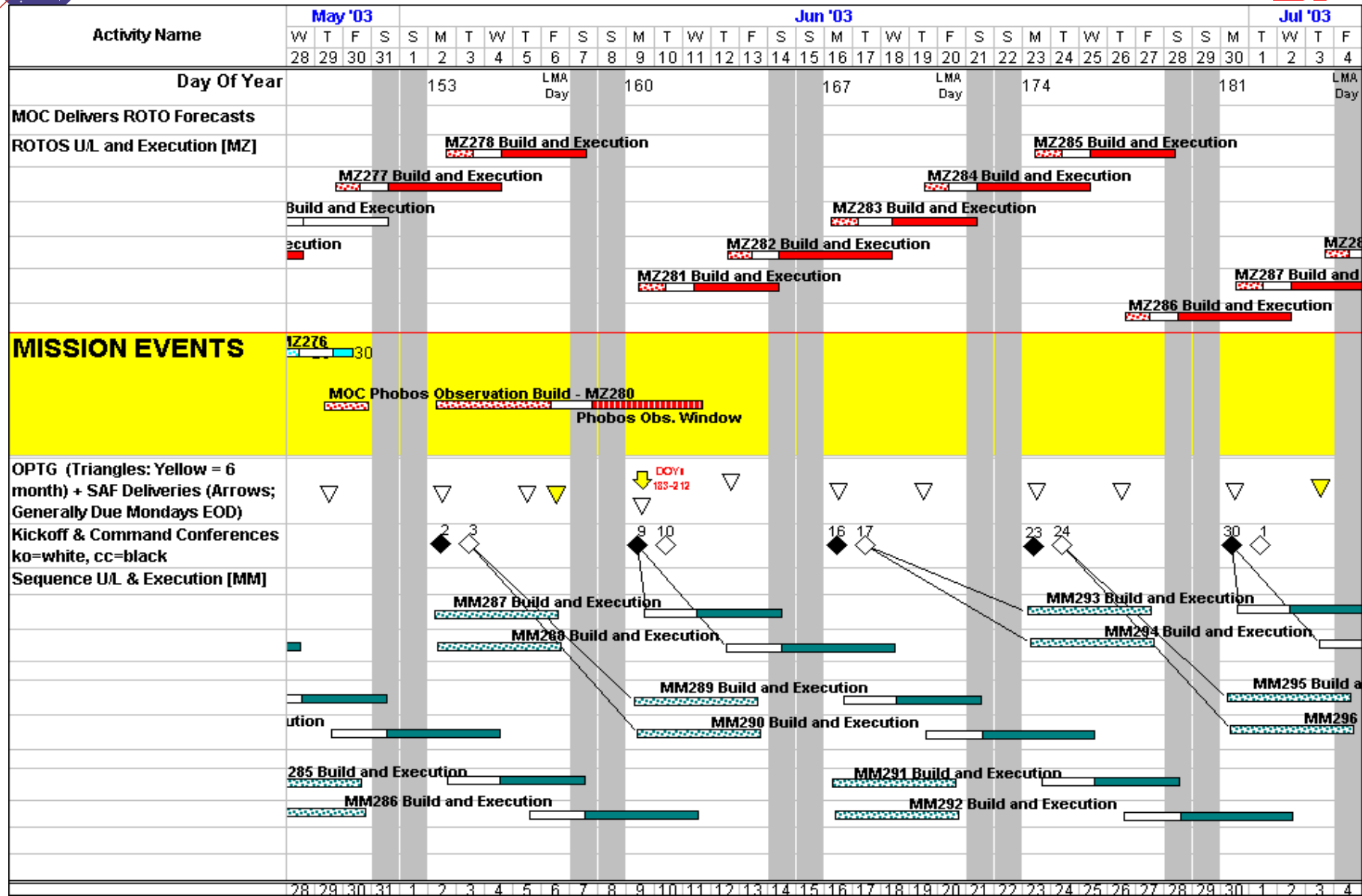
Mars Global Surveyor E2 Mission Timeline

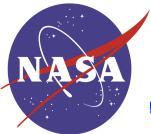




Mars Global Surveyor Proposed E3 Mission Timeline







- Last 3 Months:
 - **RS Egress Occultations** FEB 21, APR 18
 - **DDOR** FEB 22, APR 11
 - **NSP tests with DSS25, 34, 15** FEB-APR
 - **High data rate** APR 3
 - **Flex mode test** APR 8
 - **Orbit #20,000** APR 14
 - **MOC Focus test** APR 23-26
 - **EDF/PDS synchronization loss** May 4
 - **Earth Jupiter Image** MAY 8
 - **Final DDOR observation** May 10

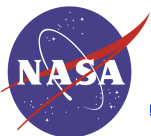
- Next 12 Months:
 - **IMC Demonstration** MAY 11, 17
 - **Phobos image** JUN 9
 - **MGS OSM#1,2,3** OCT 5, NOV, DEC



- **Spacecraft is in good health.**
- **Expect to fulfill most extended mission objectives (complete MER site coverage may become E2 mission objective).**
- **Expect to satisfy MER EDL Requirements.**
- **Chances of operation through 2008 are good.**



- Successfully Accomplished 666 ROTOs to Date
- Adjusted Nadir Dwell Periods to compensate spin axis momentum buildup for SA 0, 25, 35 deg offsets and minimum GTW offset
- Participated in NSP DSS demos Feb-Apr.
- Developed contingency strategy/software for gyro failure prior to MER EDLs.
- Completed April data archive deposition. MOC delivered 11,664 new images to PDS and began daily image releases.
- Participated in UHF MGS and Mars Peer Working groups, conducted OSM dry runs and contingency analyses.
- Deputy Project Scientist transferred to MSL Project Scientist role.



Mars Global Surveyor

Earth-Jupiter Image

JPL





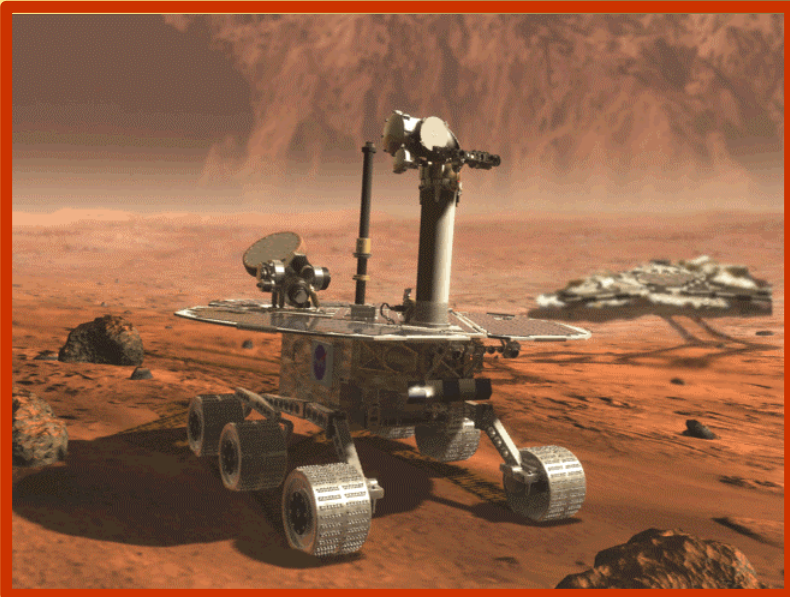
- **None**

Mars Exploration Rover



Presentation to the

Joint Users Resource Allocation Planning (JURAP) Meeting



Brad Compton

June 19, 2003

<http://mars.jpl.nasa.gov/mer/>

Mars Exploration Rover Mission

Jet Propulsion Laboratory
California Institute of Technology



Mars Exploration Rover

MER Report to the JURAP June '03

- MER-A launch time: 161T17:58:46.773 UTC
 - DSN Rise: 161T18:47:26
 - DSS-45 Carrier In-Lock: 161T18:48:18 @ 6.8 degrees off the deck.
 - DSS-45 TLM In-Lock: 161T18:48:31
 - **EXCELLENT!**
- First U/L, 2-way, CMD and ranging went fine
- Predicted range on 071T00:00:00 is
 - .01688 AU
 - OWLT = 8.4 sec
- TCM-1A 6/19/03
- Earliest MER-B launch time:
 - Wednesday, June 25 at 9:27:31 PM PDT
 - Initial acq to be over DSS 24 & 16



Mars Exploration Rover

MER Perspective on Mid-Range Status

J. Ludwinski

18 June 2003

Mars Exploration Rover Mission

Jet Propulsion Laboratory
California Institute of Technology

Mars Exploration Rover

Concern and Recommendation

- Multiple launch slips (SIRTF, MER-A, and MER-B) have contributed to dramatically slowing the mid-range process, putting the more difficult negotiations for the late-2003 and early 2004 Activity Contention Period at risk
- Under normal circumstances we should be starting negotiations for about 6 months in the future, or ~Week 49, which means we are ~14 weeks behind
- By 6/30, MER needs Week 36 and by 7/14, Week 37
- Recommendation - Find a way to get ahead!!